YEARBOOK-FORECAST NUMBER

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The OIL WEEKLY

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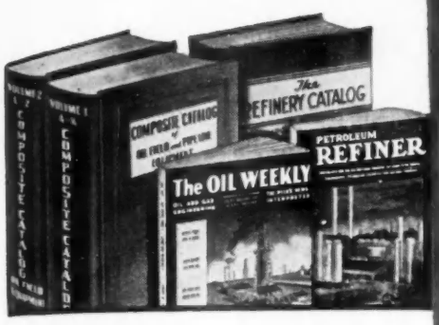

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PETROLEUM REFINER and The REFINERY CATALOG for the refining-natural gasoline industry

☆ ☆ ☆

LOOKING AHEAD
. . . with the Editor

AS MORE attention is given to secondary recovery of crude, the mechanics of techniques employed become more important. Research dealing with secondary recovery problems is increasing among oil companies and institutions studying oil and gas behavior in the reservoir.

The Pennsylvania State College, State College, Pennsylvania, takes high rank in its work on secondary recovery. Since most of the oil produced in Pennsylvania must be taken by artificial lift methods, remarkable advances have been made there in understanding what takes place when air or gas is put back into the formations to obtain additional oil.

It is being found that there exists a very important correlation between laboratory and field behavior. For instance, the derivation of the equations which define field behavior were based on an equation that defines core behavior in the laboratory.

R. J. Day and S. T. Yuster of the Division of Petroleum and Natural Gas Engineering, State College, have engaged in extensive studies on secondary recovery methods. Their paper, "Predictions of Behavior in Air-Gas Drive," to appear in THE OIL WEEKLY next week, gives interesting conclusions on the relationship between the oil production from, or the saturation of, a core under air-drive and the volume of air necessary to attain that saturation.

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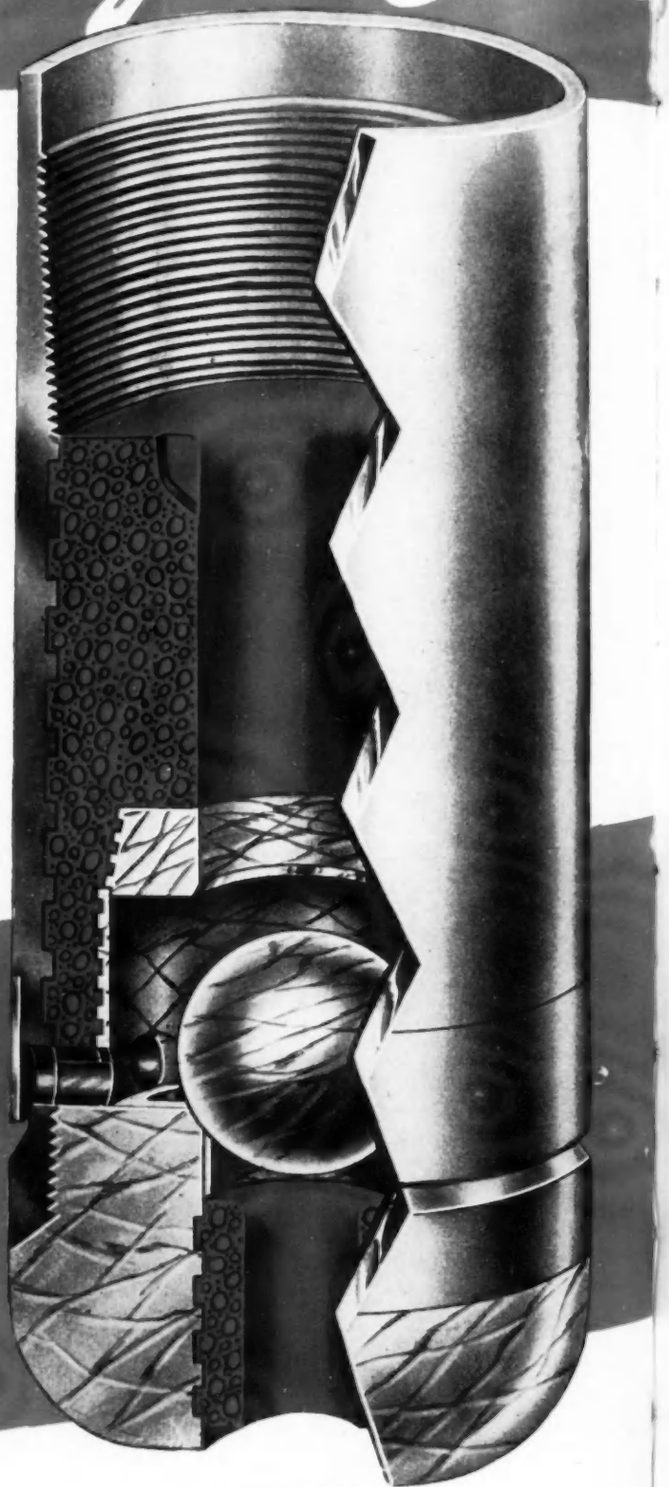

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THE CHANGING Panorama 1945-1946

THE petroleum industry has just completed a most important year, one in which it satisfactorily completed the great task of fueling to victory the modern machines of war. Now it faces another equally important year — one highly different, however.

Nineteen forty-six will mark the difficult task of postwar transition. After having recorded exceptionally sharp gains during 1945 that sent production, refining and consumption soaring to materially greater all-time peaks, the industry now faces the unusual experience of sharp reductions in these operations during 1946. So that a sound and stable basis may exist for future operations, it is highly essential that the industry promptly and smoothly adjust its operations to fit the new conditions.

Big Demand Drop . . .

The demand for petroleum, of course, is the key to oil's situation. With the unusually large requirements for military activities terminated, the decrease in consumption of oil products will be very large.

Total demand for United States petroleum for 1946 is forecast at 4,947,000 barrels daily, a decrease of aprpoximately 400,000 barrels from the all-time high of 5,340,000 barrels required in 1945. However, this is more than half a million barrels per day greater than that of 1941.

In order to avoid an oversupply which would create a chaotic condtiion that would impair its economic stability for many years, it is necessary for the industry to trim its production and refining rates to the fluctuation in demand. Because the declines will be considerable, these adjustments cannot be accomplished without encountering troublesome problems.

However, encouragement should be gained from the fact that 1946 levels are expected to be well above those of 1941, the prewar peak year. Furthermore, during the months following the close of the war the industry already has effected much of the necessary reductions. If the industry succeeds in adjusting its operations to peacetime levels without serious injury, it will then be in a favorable long range position.

Production Cutback . . .

Curtailment of United States crude oil production will be one of the important problems confronting the industry.

The steady and sharp increase that characterized oil operations during the war came to an abrupt termination when fighting ceased. So far, both the industry and state conservation agencies have been alert to the desirability of keeping production in close relationship to consumptive requirements. They have successfully done this, in reducing production during recent months almost 400,000 barrels per day below the peak of last August. If they continue to meet the situation successfully, adjustments to peacetime levels can be attained without seriously injuring the position of crude oil.

Several factors indicate that the cutback in United States crude oil production will be greater than the reduction in demand. Requirements for United States crude oil in 1946, therefore, are expected to average close to 4,300,000 barrels daily. This would be almost 700,000 barrels per day below the wartime peak of last July, close to 400,000 below the average for the whole year 1945, but only 300,000 barrels under levels of more recent months. In comparison with 1941, forecasted 1946 production would be 450,000 barrels greater per day. There will be considerable fluctuation in production during the year, with the lowest levels anticipated during the spring months. Thereafter, production should have a tendency to increase.

World Production Up . . .

Production of other countries besides the United States also increased sharply during the war, and the impact of this situation will be felt during 1946 and future years. World production averaged more than 7½ million barrels daily during 1945, an increase of almost half a million barrels over 1944 and almost 1½ million barrels more than in 1941.

It is significant that the sharp growth in world production, especially during 1945, was due primarily to gains in countries outside the United States. Output of the rest of the world rose 320,000 barrels per day during 1945, or three times as rapidly as that of the United States. The largest increase was in Venezuela, which gained 25 percent, or 179,000 barrels daily, in contrast with 1944 rates. The Near East region and the U. S. S. R. also equalled the 100,000-barrel per day gain registered by the United States.

Larger Imports . . .

The large expansion in crude oil production outside the United States may have an important bearing on the domestic petroleum industry. Many believe it will result in larger importation and smaller exportation volumes for the United States.

During 1945, United States imports rose sharply in averaging 306,000 barrels per day. However, imports are expected to average 365,000 barrels daily in 1946, a near all-time peak and the highest since 1922. Much of the imports will be heavy crude or residual fuel oil.

Stock Position Encouraging . . .

The industry enters the postwar era with stocks at exceptionally low levels, a very encouraging condition. Enormous demand for petroleum during the war brought a steady decline in stocks. At the end of 1945, stocks of all oils were nearly 90 million barrels less than when Pearl Harbor was attacked. There may be some rebuilding of inventories during 1946, which would be reflected through enlarged crude oil requirements.

More than one third of the stock reductions took place in crude oil inventories, and they were the lowest since 1922. However, producers cannot look to large additions to stocks, because two

thirds of the withdrawals occurred in California. Furthermore, gasoline and kerosine stocks were larger than at the end of 1941.

Serious Refining Problems . . .

Still another problem will be that of keeping refinery output in line with fluctuating demand for various products. Not only must refiners curtail over-all production, which will result in considerable idle capacity, but they must also adjust the relative yield of products.

Recent trends show that the adjustment of product yields may be one of the most serious problems facing the industry. Refiners, so far, have not properly adjusted product yields, and stocks of gasoline have risen, climbing 22 million barrels between December 1, 1945, and January 26, 1946. On the latter date they stood at 107 million barrels, indicating they would soon exceed the all-time high of 109 million barrels and perhaps a peak of 120 million barrels. Such levels would have a deteriorating influence on petroleum markets.

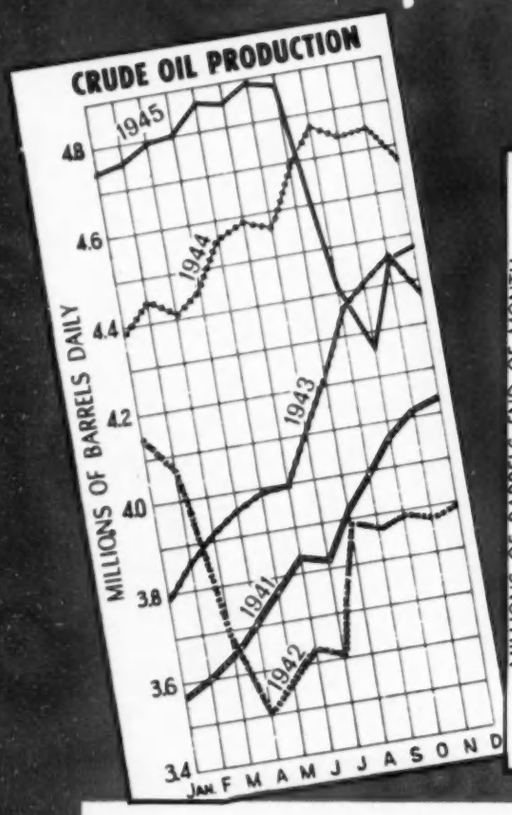
Meanwhile, stocks of both residual and distillate fuel oil dropped sharply, and are quite low. Entirely too much gasoline and not enough fuel oils were being made. Yields must be better adjusted.

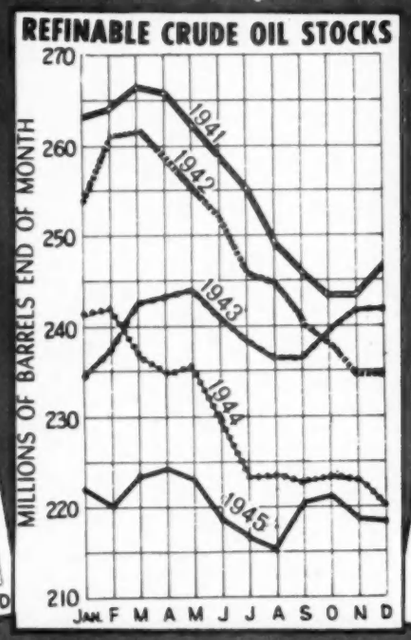
Smaller Earnings . . .

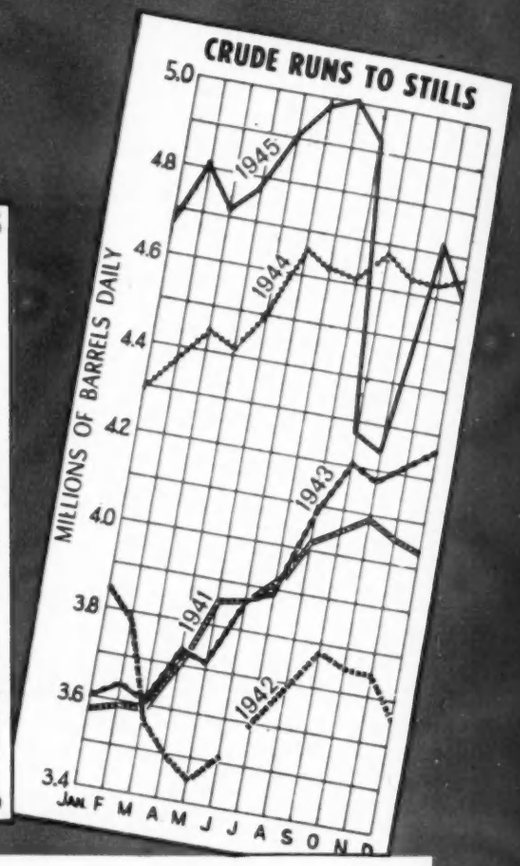
Another problem, and a serious one, is that of smaller earnings. Both producers and refiners face prospects of experiencing sharply curtailed earnings. As the output of wells and plants are reduced, income will decline. Furthermore, as output decreases the cost per barrel of producing and refining will increase. During the war, rising costs for labor and materials were largely offset by greater volumes, so only a very moderate increase in unit cost was indicated. The situation now is completely reversed.

The outlook for higher costs and less income, can mean only greatly reduced earnings. Such conditions bring operators up against the question of crude oil and refined products prices. The need for an increase in ceiling prices, or complete removal of them at an early date, was never greater. Lifting such ceilings would allow normal economic forces to determine price levels, and therefore would be more conducive to the sound functioning of the industry for the fu-

Monthly Oil Trends







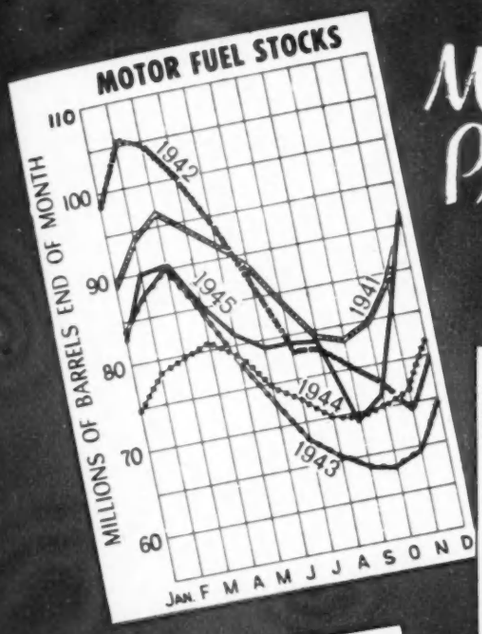
Crude Production, Stocks and Runs

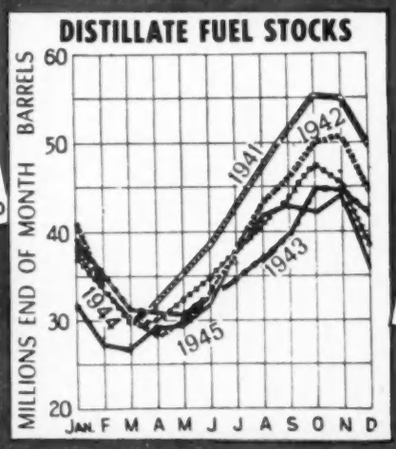
(All Figures in Thousands of Barrels—Add 000)

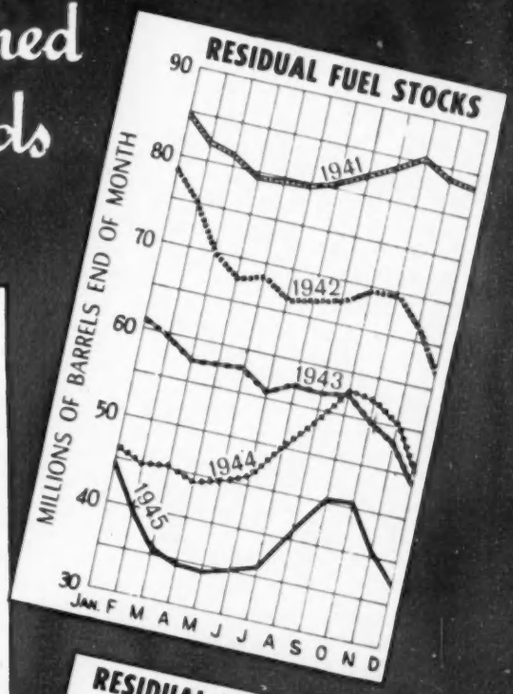
MONTH	DAILY AVERAGE PRODUCTION					REFINABLE CRUDE STOCKS END OF MONTH					DAILY AVERAGE RUN TO STILLS				
	1945	1944	1943	1942	1941	1945	1944	1943	1942	1941	1945	1944	1943	1942	1941
January	4,748	4,380	3,782	4,137	3,569	221,737	241,245	234,423	253,531	263,251	4,680	4,296	3,600	3,840	3,570
February	4,758	4,445	3,871	4,070	3,600	220,221	241,718	237,075	260,844	264,432	4,817	4,379	3,641	3,778	3,587
March	4,798	4,405	3,921	3,693	3,639	223,988	236,220	242,181	261,832	266,380	4,719	4,448	3,613	3,567	3,583
April	4,801	4,453	3,967	[1]3,502	3,703	224,229	234,694	242,934	257,761	266,012	4,774	4,411	3,732	3,496	3,704
May	4,870	4,558	3,995	3,555	3,773	223,151	235,176	243,880	254,577	262,111	4,912	4,501	3,710	[1]3,448	3,853
June	4,854	4,575	3,977	3,620	3,834	218,218	229,631	240,601	251,421	259,075	4,989	4,665	3,866	3,513	3,865
July	[3]4,891	4,558	4,113	3,606	3,815	216,638	223,503	239,289	245,026	255,378	[2]5,001	4,627	3,893	3,599	3,909
August	4,870	4,687	4,214	3,885	3,915	[4]215,135	223,901	237,085	244,125	249,620	4,928	4,614	4,094	3,682	4,018
September	4,413	4,766	4,347	3,864	3,981	220,642	222,868	236,287	240,588	246,111	4,275	4,682	4,203	3,782	4,049
October	4,277	4,740	4,403	3,888	4,069	221,246	223,500	239,451	237,901	243,735	4,244	4,636	4,162	3,757	[3]4,089
November	4,447	4,747	4,455	4,874	4,112	218,800	222,759	241,648	234,635	243,679	4,715	4,668	4,216	3,746	4,051
December	4,482	4,686	4,360	3,891	[3]4,138	218,500	220,663	242,132	234,889	246,884	4,605	4,681	4,260	3,656	3,932

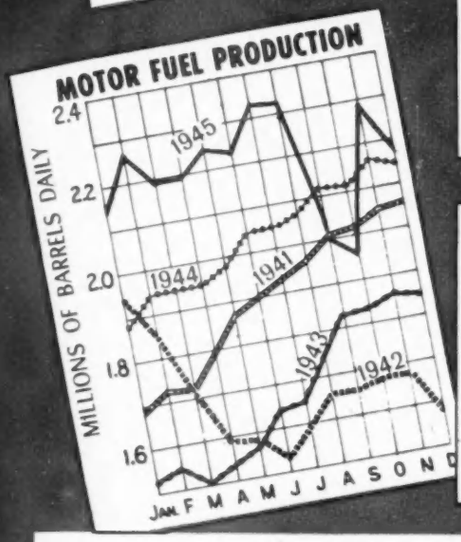
[1] Wartime low. [2] All-time peak. [3] Prewar peak. [4] Lowest since 1921.

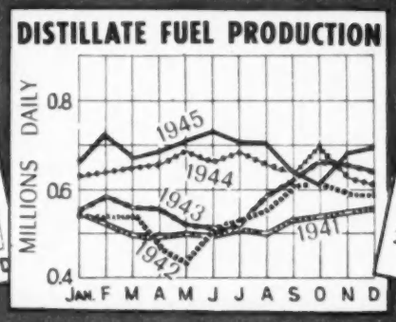
Monthly Refined Product Trends

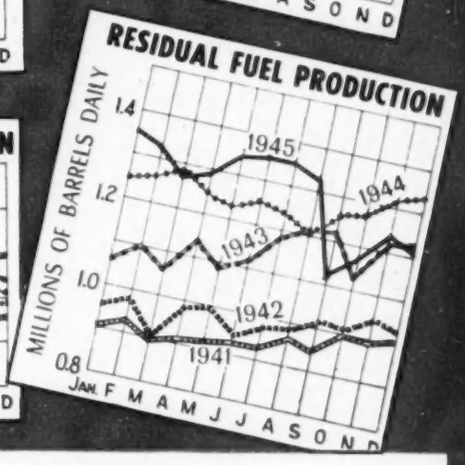












Daily Average Production of Principal Refined Products

(Figures in thousands of barrels — add 000)

MONTH	MOTOR FUEL					DISTILLATE FUEL OIL					RESIDUAL FUEL OIL				
	1945	1944	1943	1942	1941	1945	1944	1943	1942	1941	1945	1944	1943	1942	1941
January	2,150	1,877	1,524	1,940	1,695	663	624	558	545	549	1,350	1,243	1,050	949	902
February	2,268	1,940	1,546	1,843	1,728	724	636	580	543	526	1,326	1,258	1,100	973	928
March	2,192	1,940	[1]1,505	1,707	1,723	675	641	558	523	494	1,273	1,282	1,055	[1]906	899
April	2,192	1,946	1,534	1,584	1,792	681	653	556	467	490	1,289	1,243	1,137	981	910
May	2,251	1,974	1,564	1,579	1,879	708	648	519	[1]433	501	1,341	1,227	1,088	999	916
June	2,232	2,057	1,641	1,530	1,900	[2]730	668	509	507	490	[2]1,351	1,263	1,117	954	942
July	[2]2,339	2,048	1,647	1,590	1,923	713	688	518	521	508	[2]1,351	1,237	1,181	971	923
August	2,333	2,067	1,743	1,649	1,959	701	664	587	550	497	1,329	1,203	1,207	982	962
September	2,003	2,122	1,828	1,646	2,006	640	637	617	602	534	1,139	1,263	1,220	1,013	937
October	1,955	2,113	1,833	1,661	2,009	613	700	663	608	534	1,176	1,268	1,118	1,008	996
November	2,282	2,161	1,856	1,667	2,041	682	629	646	585	541	1,240	1,312	1,222	1,044	989
December	2,173	2,142	1,845	1,574	[3]2,051	692	615	643	583	[3]553	1,216	1,332	1,225	1,029	[3]1,004

Stocks of Principal Refined Products at End of Month

(Figures in thousands of barrels — add 000)

MONTH	MOTOR FUEL					DISTILLATE FUEL OIL					RESIDUAL FUEL OIL				
	1945	1944	1943	1942	1941	1945	1944	1943	1942	1941	1945	1944	1943	1942	1941
January	83,037	74,786	83,379	98,291	88,800	44,347	36,890	39,014	40,801	37,926	31,695	46,270	60,808	78,486	85,092
February	90,091	78,254	87,863	105,395	93,920	39,760	33,561	35,298	33,711	34,890	27,210	45,070	59,657	75,386	82,092
March	90,298	79,517	90,538	104,804	96,832	35,451	29,926	31,135	30,205	29,805	[1]26,729	45,427	57,280	70,098	81,634
April	84,436	80,851	84,078	100,170	93,918	34,418	30,152	30,674	[1]28,792	31,725	29,148	44,137	57,381	67,658	79,138
May	82,023	78,955	78,544	94,029	90,281	34,333	32,484	30,665	30,281	35,389	29,511	44,888	57,757	68,388	79,218
June	78,812	74,723	72,524	86,597	88,646	35,606	35,242	32,467	32,501	38,274	32,440	46,649	55,879	66,341	79,948
July	78,798	73,346	67,819	78,245	83,746	38,341	38,335	34,324	37,729	42,677	36,276	50,589	57,107	66,935	80,760
August	78,318	70,753	65,557	77,808	79,205	42,227	40,712	36,931	42,928	47,163	41,245	53,506	56,857	67,613	82,268
September	69,474	69,055	63,909	75,349	78,134	42,822	43,687	39,681	45,817	51,412	45,059	57,849	57,977	69,264	83,752
October	71,998	70,046	[1]63,565	73,093	79,568	42,068	47,352	44,857	49,823	55,485	45,479	57,420	54,952	69,420	85,960
November	81,856	72,441	64,499	69,220	83,953	44,274	45,584	44,806	50,709	55,073	41,871	55,643	53,046	66,664	83,730
December	91,280	77,874	69,505	75,404	90,596	36,651	38,333	41,728	44,940	49,926	37,942	50,383	48,484	61,783	83,195

[1] Wartime low. [2] All-time peak. [3] Prewar peak.

ture. For example, the unfavorable gasoline stock situation might have been at least partly avoided under normal economic conditions.

To Drill Fewer Wells . . .

Because of the large expenditures involved in drilling operations, it is unlikely that the industry will engage in any extensive exploitation program as long as earnings are poor. Consequently, prospects for expanded drilling are not bright despite elimination of wartime handicaps and the desire of most companies to rebuild their reserves and producing capacities to prewar levels.

Because of these and other factors, which include labor strikes, the annual drilling forecast of THE OIL WEEKLY sees fewer wells to be drilled in 1946 than in 1945. It is estimated that only 24,241 wells (exclusive of old wells drilled deeper) will be completed in the United States during 1946. This is a reduction of 1112 wells, or 4.3 percent, from the 1945 rate.

United States well completions in 1945 were the highest since prewar, but still far below normal. The total of 25,847 completions was 7.7 percent above 1944 and 32 percent greater than the wartime low of 1943.

Deeper Drilling Likely . . .

Deeper drilling continued to characterize United States completions, so reduction in footage drilled likely will be smaller than the decline in number of wells completed in 1946. The forecast is for 87 1/3 million feet of hole to be drilled in 1946, a loss of 3.4 percent in contrast with the 4.3 percent decrease expected in completions.

Footage drilled during 1945 was close to prewar levels despite fewer completions, increasing sharply as the average depth per well amounted to 3501 feet, the greatest in history. Reflecting this general trend, was the establishment of new depth records in 11 different states or districts during the year. Among the records was a new world mark of 16,655 feet.

The trend toward deeper drilling continues to receive encouragement, in the form of deeper production. During 1945 a new world producing depth record of 13,520 feet was established, and previous producing depth records were broken in 11 states or districts.

Extensive Wildcatting . . .

In recent years the industry has devoted a large portion of its drilling to exploratory work, and this trend is expected to continue during 1946. A record number of wildcats were completed during 1945, when 4337 were drilled. Although fewer total wells are foreseen for 1946, the forecast for drilling estimates 4480 wildcats or 18 percent of all completions.

New Fields Probable . . .

With the industry likely to continue its intensive search for oil, it can expect discovery of many new fields. Experience records indicate the United States is still a good hunting ground for petroleum, and give no indication of lessened results due to any slackening in discovery efforts.

Wildcatting in 1945 enjoyed a slightly higher ratio of success than in the preceding 8-year period, 11.6 percent of the strict wildcats (exclusive of field extension attempts) being productive in contrast with a flat 11 percent for 1937-44 inclusive. There were 638 new oil, gas or distillate producing sources discovered last year. New fields made up 451 of this total, of which 315 produced crude oil; and 187 were new producing horizons in previously found fields, of which 158 produced crude oil.

Still Finding Much Oil . . .

Large quantities of additional oil supply also are still being found in the United States. Nearly 2¼ billion barrels of new petroleum were proved to exist during 1945, the greatest year since 1939. This was almost half a billion barrels more than the amount produced, a remarkable achievement in view of the unusually high producing rate. Consequently, the nation's proved petroleum reserves advanced to their highest level in history, amounting to 20,970,000,000 barrels at the end of the year.

The significance of this figure is properly stressed when compared with the end of 1941. Despite having produced record volumes while handicapped with wartime shortages, proved petroleum reserves at the end of the war were almost 1½ billion barrels larger than at the time of Pearl Harbor!

Natural Gas Outlook Bright . . .

Natural gas will be very much in the limelight during 1946. The oil industry has become increasingly conscious of the great importance of this resource, and interest in its conservation and utilization has increased many fold. As a result, a continuing increase of gas sales seems assured, if the federal government does not impose restrictive regulations. This possibility becomes of current interest because of the investigation and other activities of the Federal Power Commission.

Natural gas companies have filed petitions with the FPC for construction of nearly 5000 miles of new natural gas pipe lines, capable of transmitting 400 million additional cubic feet a day. In addition, oil companies will spend many millions during the next year on new cycling and gasoline plants.

Therefore, it is to be expected that marketed production of natural gas will continue to rise to new all-time peaks.

More Natural Gasoline . . .

Natural gasoline is to be a larger factor in the industry. During the war the ability to manufacture natural gasoline was increased by one-third. Production in 1945 averaged 300,000 barrels daily.

With many new gasoline and cycling plants projected, the output of natural gasoline should continue to rise. Estimated production of natural gasoline and allied products for 1946 is 311,000 barrels per day. Production may become so out of balance with postwar requirements as to cause price difficulties.

Additional Pipe Lines . . .

If the Federal Power Commission approves several petitions seeking permission to construct natural gas systems, pipe line construction in 1946 should double that built during 1945.

With the war construction program previously completed and still handicapped by wartime restrictions and shortages, only 3211 miles of new pipe lines were placed in operation last year.

Construction underway at the beginning of the year, and contemplated plans, indicate that about 5000 miles of additional new lines will be placed in operation before the end of 1946. Since much of the proposed construction is for natural gas carriers, the approval of FPC is necessary.

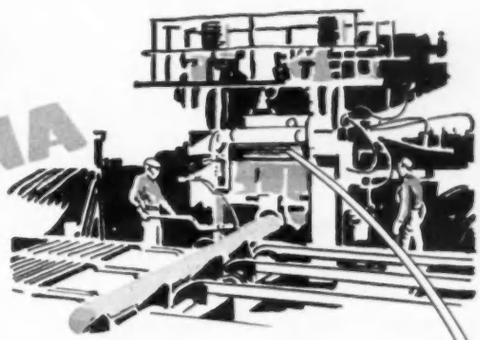
May Abandon Many Wells . . .

The United States had a record number of producing wells at the turn of the year. Undoubtedly, government subsidy payments were a factor instrumental in keeping many of the wells in operation. On December 31, 1945 approximately 300,000 of the 421,000 producing wells were receiving stripper-well or high-cost subsidy payments.

An 8582 increase in number of producing wells coupled with the reduction in crude production in December, caused the average daily production per well to drop from 11.4 a year ago to 10.7 at the end of 1945.

The decline in average production per well is likely to be reflected in wells being abandoned in greater numbers, especially if subsidy payments are removed. This would leave large quantities of oil in the ground.

Youngstown to COASTAL LOUISIANA



COASTAL Louisiana has made a major contribution to America's oil supply since big production really got under way in the "thirties". With well over a billion barrels in proved reserves, it promises to be one of the country's great producing areas for many years to come.

Holding the world's highest average for deep wells, Coastal Louisiana presents many peculiar operating problems, both with reference to transportation and drilling operations. Ever since the Jennings discovery back in 1902, oil men in Coastal Louisiana have keenly appreciated the importance of an always reliable source of good drill pipe, casing, tubing and line pipe. They have known Youngstown for dependable pipe through most of its entire history. In the years ahead, oil men in this field and elsewhere can continue to rely on Youngstown for quality oil country tubular goods to meet all present and future problems of the industry.

Youngstown is identified by the orange band or bands.

*Locations starred indicate Continental Supply Company District Offices or Stores.

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Salient Annual Statistics

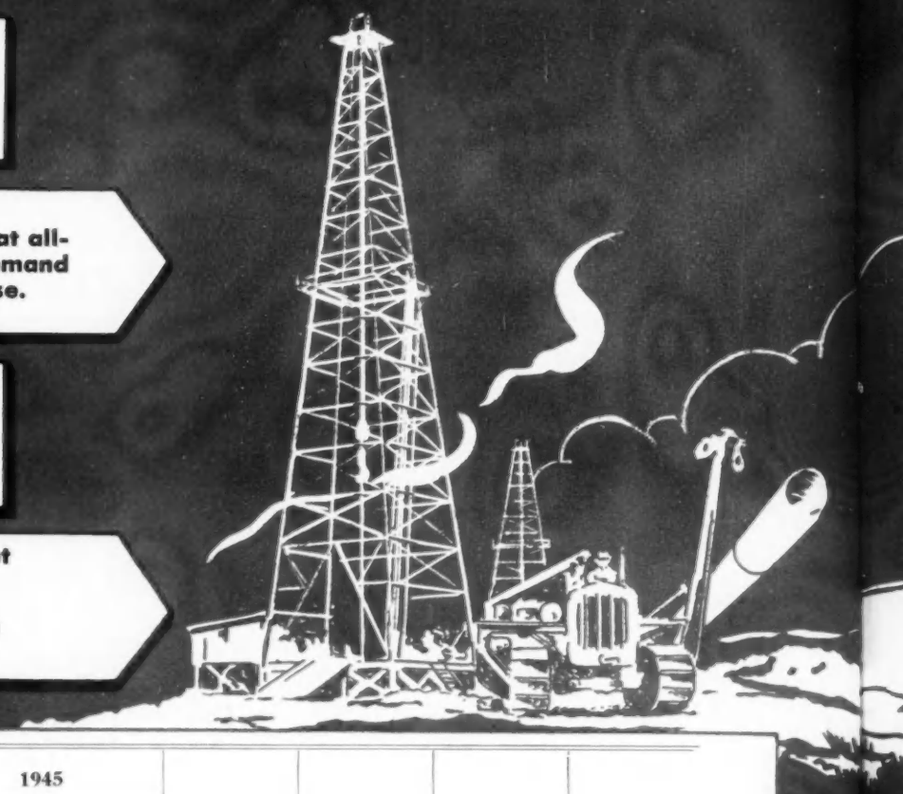
Large war requirements push 1945 consumption to highest level in history.

Production of crude oil at all-time peak, but big demand causes stock decrease.

Refiners produce record volumes of products from peak crude oil runs to stills.

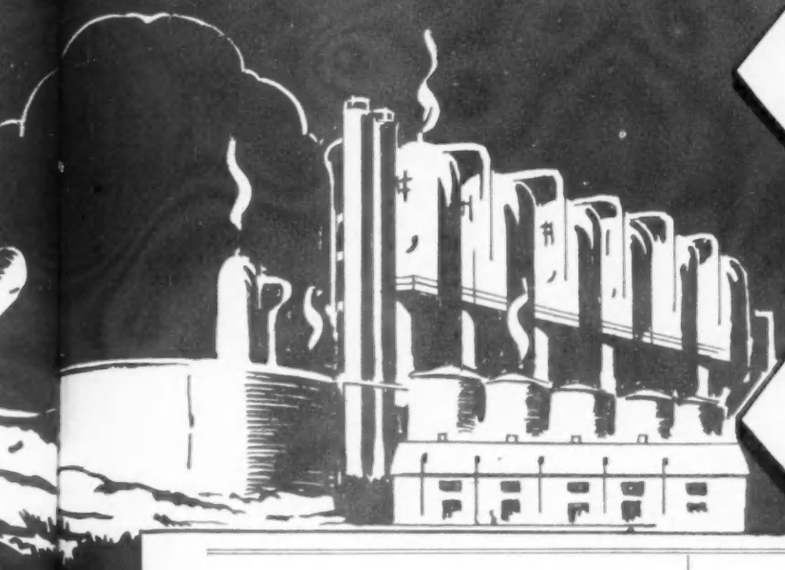
Natural gasoline output continues to rise.

Natural gas production and sales at peak.



	1945					
	Amount	Percent Change from 1944	1944	1943	1942	1941
Total Demand (All Oils)	1,949,213	+ 3.75	1,878,673	1,671,383	1,566,815	1,594,609
Crude Oil	1,786,111	+ 2.42	1,743,828	1,510,829	1,411,552	1,470,044
Motor Fuel	799,989	+ 8.52	737,163	619,815	624,207	694,588
Kerosene	81,914	+ 6.80	76,700	73,350	72,343	72,690
Residual Fuel Oil	532,829	+ 1.56	524,624	481,902	417,792	397,536
Distillate Fuel Oil	258,871	+ 2.37	252,885	233,067	207,236	189,749
Lubricating Oils	42,437	+ 3.32	41,072	40,322	37,329	40,179
Crude Production	1,710,275	+ 1.94	1,677,753	1,505,613	1,386,645	1,402,228
Crude Runs to Stills (Total)	1,723,294	+ 3.46	1,665,684	1,429,738	1,334,103	1,409,192
Domestic Crude Runs	1,651,057	+ 1.76	1,622,514	1,417,559	1,319,507	1,358,246
Natural Gasoline Production	110,709	+ 10.66	100,046	87,716	83,322	80,855
Major Product Production:						
Motor Fuel	802,013	+ 7.87	743,484	608,180	608,900	701,294
Kerosene	80,965	+ 3.35	78,344	72,270	67,474	72,586
Residual Fuel Oil	467,867	+ 1.39	461,455	417,306	358,901	342,367
Distillate Fuel Oil	250,007	+ 4.54	239,152	211,516	196,714	189,177
Lubricating Oils	42,122	+ 2.47	41,106	38,679	38,626	39,539
Stocks End of Year (All Oils)	463,422	— 2.86	477,089	485,698	497,940	552,328
Refinable Crude Oil	218,918	— 0.88	220,862	243,506	234,889	247,499
Heavy California Crude	4,505	— 26.23	6,107	8,289	10,865	10,179
Natural Gasoline	4,000	— 5.93	4,252	4,541	4,632	4,275
Refined Product Stocks	235,999	— 4.01	245,868	229,362	247,554	290,375
Motor Fuel	91,280	+ 17.21	77,874	69,505	75,404	90,688
Kerosene	10,201	— 8.51	11,150	9,359	10,064	9,599
Residual Fuel Oil	37,942	— 24.69	50,383	48,484	61,783	83,195
Distillate Fuel Oil	36,651	— 4.39	38,333	41,728	44,940	49,926
Lubricating Oils	7,500	— 4.03	7,815	7,781	9,424	8,127
Crude Reserves End of Year	20,970,011	+ 2.53	20,453,231	20,064,152	20,082,793	19,589,296
New Oil Proved to Exist	2,227,055	+ 7.72	2,067,500	1,484,786	1,878,976	1,968,963
Through New Pools Discovered	425,933	— 16.70	511,308	282,418	260,051	429,974
Through Pool Extensions-Development	1,801,122	+ 15.74	1,556,192	1,202,368	1,618,925	1,538,989

of the United States!



Nation's proved crude oil reserves increase despite unusually high production rate.

Very high rate of wildcat drilling locates many new fields and pays but few are big.

Gain in drilling does not restore prewar rate.

Wells deeper and footage drilled nearly normal.

Fewer miles of new pipe lines are constructed.

Number of producing wells continues normal gain.

	1945					
	Amount or Numbers	Percent Change from 1944	1944	1943	1942	1941
Total No. of New Fields and Pays Found	638	+ 0.79	633	499	523	650
New Oil Discoveries	473	— 0.42	475	403	451	562
New Fields	315	— 3.37	326	276	288	301
New Pays	158	+ 6.04	149	127	163	261
New Gas Discoveries	121	+ 3.42	117	72	57	83
New Fields	106	+ 3.92	102	56	47	58
New Pays	15	0.00	15	16	10	25
New Distillate Discoveries	44	+ 7.32	41	24	15	5
New Fields	30	— 6.25	32	15	13	3
New Pays	14	+ 55.55	9	9	2	2
Wildcats Drilled (Including Outposts)	4,337	+ 0.30	4,324	3,612	3,166	3,697
Productive	818	+ 1.61	805	644	523	650
Non-Productive	3,519	0.00	3,519	2,968	2,643	3,047
Completions, Total	25,846	+ 5.69	24,455	19,245	21,454	32,210
Oil Wells	13,738	+ 4.91	13,095	9,541	10,942	19,472
Gas Wells	2,484	+ 2.79	2,302	1,540	1,875	2,582
Distillate Wells	153	+159.32	59	75	105	
Dry Holes	7,226	+ 7.04	6,751	5,952	5,684	6,984
Gas Input Wells	46	+ 21.05	38	78	72	117
Water Input Wells	1,663	— 6.78	1,784	1,589	2,141	2,185
Water Disposal Wells	44	— 13.72	51	42	47	47
Old Wells Drilled Deeper	492	+ 31.20	375	428	588	823
Footage Drilled (Thousands of Feet)	90,486	+ 11.64	81,049	58,706	65,179	95,452
Producing Oil Wells End of Year	421,433	+ 2.08	412,851	407,581	407,257	403,582
Flowing Wells	49,088	+ 4.23	47,191	46,562	47,270	47,749
Pumping Wells	372,345	+ 1.83	365,660	361,019	359,987	355,833
Pipe Line Construction (Miles)	3,211	— 35.27	4,961	7,671	7,550	7,300
Oil Lines Completed	1,470	— 33.75	2,219	3,795	4,200	2,900
Gas Lines Completed	1,598	— 28.15	2,224	262	1,250	1,700
Product Line Completed	143	— 72.39	518	3,614	2,100	2,700
Natural Gas Marketed Prod. (billion cu. ft.)	3,845	+ 1.72	3,780	3,415	3,053	2,813

Lower Demand to Require States Crude Oil

Probable 1946 demand for United States oils indicates crude oil production likely to decline 400,000 barrels per day from 1945 average, with greater loss existing during the next few months

THOROUGH studies on the outlook for petroleum demand, made in recent months by committees acting through the Petroleum Administration and by economists of individual companies, make it possible to present here a forecast of demand and supply in 1946 which should prove extremely accurate.

The forecast here published is controlled by basic demands as estimated last November in the "Worldwide Petroleum Supply Survey" of the economics committee of the Petroleum Industry War Council. The estimates were made by official industry committees and were consolidated by the Petroleum Administration. However, actual demands in the past several months have shown requirements of some oils to be running slightly higher than the estimates, and those changes are taken into account in the forecast here published.

As shown in the "Forecast" table herewith, it is indicated that the total demand for all oils to be met in 1946 by the U. S. petroleum industry will average for the year approximately 4,947,000 barrels daily. This is a decrease of 7.4 percent from the all-time peak total demand of 5,340,000 daily in 1945. But it is 13.2 percent more than the 4,369,000 barrels daily of total demand in 1941, the final prewar year for the U. S.

The domestic and predominant component of this total demand is estimated at 4,422,000 barrels daily in 1946, down 8.6 percent from the 4,837,000 daily of 1945 but comparing with 4,071,000 daily in 1941. Exports are expected to average 525,000 barrels daily in 1946, up 4.4 percent from the 503,000 daily in 1945 and comparing with 298,000 per day in 1941.

Total demand for motor fuel is forecast at 2,018,000 barrels daily in 1946, a decrease of 7.9 percent from the 2,192,000 daily of 1945, but more than the 1,903,000 daily required in 1941. Domestic consumption is expected to average about 1,831,000 barrels per day, 6.4 percent less than the 1,956,000 daily of 1945 but practically the same as the 1,829,000 daily of 1941. Exports are estimated at 187,000 daily in 1946, off 20.8 percent from the 236,000 daily of 1945, but much more than the 74,000 daily exported in 1941.

Kerosine demand is expected to go counter to the general trend and increase to 244,000 barrels daily, up 8.9 percent from the 224,000 daily of 1945 and comparing with 199,000 daily in 1941. This will be due to relatively large exports.

Distillate fuel oil demand is expected to hold up well and average about 661,000 barrels daily in 1946, a decrease of 6.8 percent from the 709,000 daily of 1945 but materially above the 520,000 daily of 1941. As in the case of kerosine, exports are expected to increase.

Residual fuel oil total demand is forecast at 1,241,000 barrels daily, down 15.0 percent from the 1,460,000 barrels per day in 1945 but materially more than the 1,089,000 daily of 1941. Exports will be higher, as in the cases of kerosine and distillate fuel oil.

Total demand for lubricants is forecast at 105,000 barrels daily for 1946, down 9.5 percent from the 116,000 daily of 1945 and also somewhat less than the 110,000 daily of 1941. Exports of lubes, as of kerosine and fuel oils, are expected to increase.

Supplies for Meeting Demand

On the basis of the above indicated requirements for petroleum products, a fairly clear picture is afforded as to the rates of operation to be expected. The demand is expected to be supplied wholly from new supplies (domestic production and imports) and in no part from storage, which is now exceptionally low, following the heavy demands of the war years.

Forecast of Petroleum Demand and Supply, 1946, Compared with Other Years

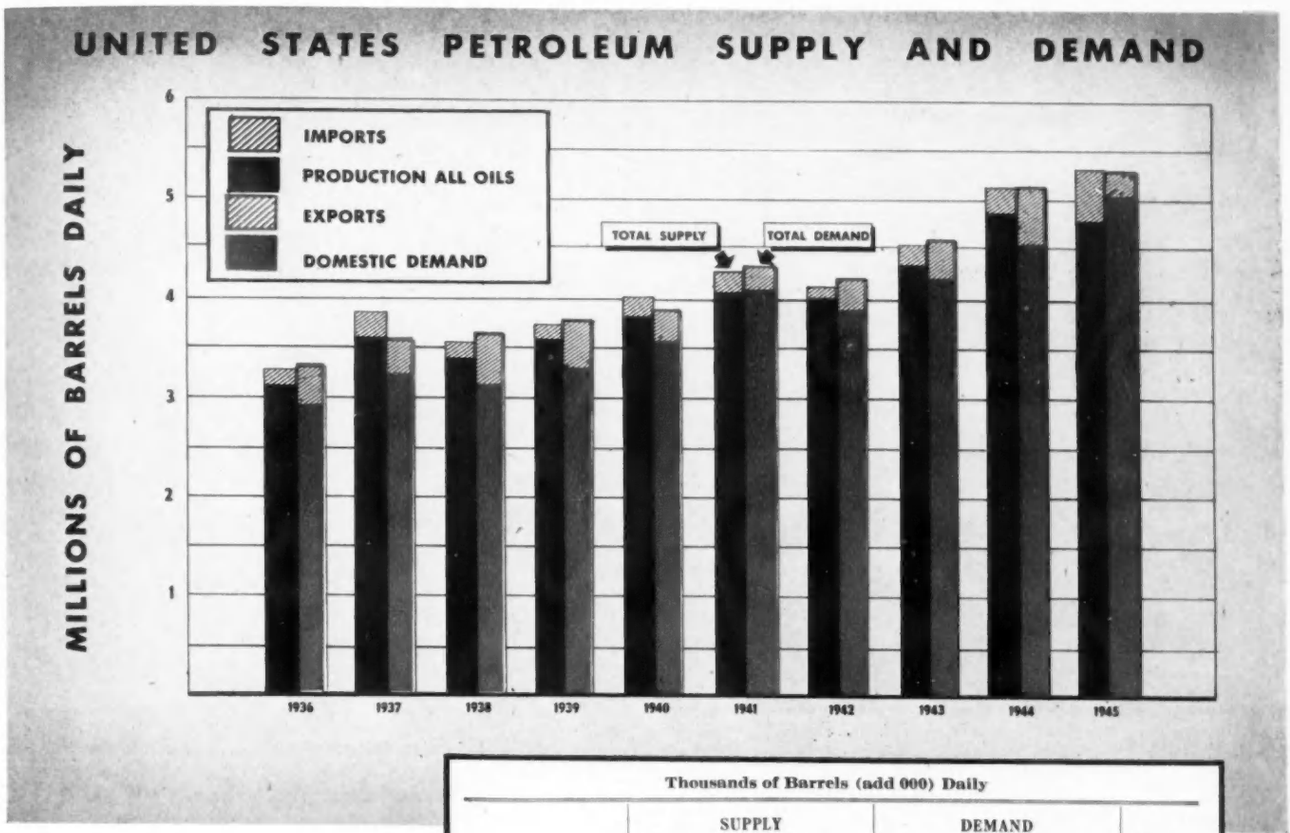
(Forecast based on P.A.W. Worldwide Petroleum Supply Survey, Nov. 1945, with minor revisions indicated by more recent trends of demand.)

THOUSANDS OF BARRELS DAILY

ITEM	1941	1944	1945	% Diff. '44-'45	Forecast 1946	% Diff. '45-'46
DEMAND						
Motor Fuel, Total	1,903	2,014	**2,192**	+ 8.8	**2,018**	— 7.9
Domestic	1,829	1,739	**1,956**	+12.5	**1,831**	— 6.4
Export	74	275	**236**	—14.2	**187**	— 20.8
Kerosene, Total	199	210	**224**	+ 6.7	**244**	+ 8.9
Domestic	190	197	**206**	+ 4.6	**206**	.....
Export	9	13	**18**	+38.5	**38**	+111.1
Distillate Fuel Oil	520	691	**709**	+ 2.6	**661**	— 6.8
Domestic	474	573	**614**	+ 7.2	**544**	— 11.4
Export	46	118	**95**	—19.5	**117**	+ 23.2
Residual Fuel Oil	1,089	1,433	**1,460**	+ 1.9	**1,241**	— 15.0
Domestic	1,050	1,395	**1,427**	+ 2.3	**1,184**	— 17.0
Export	39	38	**33**	—13.2	**57**	+ 72.7
Lubricants	110	112	**116**	+ 3.6	**105**	— 9.5
Domestic	83	88	**98**	+11.4	**78**	— 20.4
Export	27	24	**18**	—25.0	**27**	+ 50.0
Other Products & Ref. Losses	424	546	**535**	— 2.0	**551**	+ 3.0
Domestic	412	537	**526**	— 2.0	**541**	+ 2.9
Export	12	9	**9**	.....	**10**	+ 11.1
Crude (as fuel, losses, exports)	124	127	**104**	—18.1	**127**	+ 22.1
Domestic	33	33	**10**	—69.7	**38**	+280.0
Export	91	94	**94**	.....	**89**	— 5.3
Total Demand, All Oils	4,369	5,133	**5,340**	+ 4.0	**4,947**	— 7.4
Domestic	4,071	4,562	**4,837**	+ 6.0	**4,422**	— 8.6
Export	298	571	**503**	—11.9	**525**	+ 4.4
SUPPLY						
Domestic Production, Total	4,073	4,864	**4,997**	+ 2.7	**4,582**	— 8.3
Crude Oil	3,842	4,584	**4,686**	+ 2.2	***4,277**	— 8.7
Natural Gasoline & Benzol	231	280	**311**	+11.1	**305**	— 1.9
Imports, Total	266	252	**306**	+21.4	**365**	+ 19.3
Crude Oil (specialties & heavy)	139	122	**202**	+65.6	**210**	+ 4.0
Refined Products (mostly residual fuel and marine diesel)	127	130	**104**	—20.0	**155**	+ 49.0
Total New Supply	4,339	5,116	**5,303**	+ 3.7	**4,947**	— 6.7
Change in Stocks, All Oils	—30	—17	**—37**		*	

* Supply shown is on basis of no change in stocks. However, some increase in crude stocks appears desirable to give more flexibility in crude movements. Such increase is believed probable, and would require same increase in domestic crude production.

Sharp Decrease in United Producing Rates



Thousands of Barrels (add 000) Daily

YEAR	SUPPLY			DEMAND			Change In All Stocks[5]
	Production All Oils[1]	Total Imports[2]	Total New Supply	Domestic Demand[3]	Exports & Shipments[4]	Total Demand	
1936	3,128	156	3,284	2,986	360	3,346	— 62
1937	3,647	157	3,804	3,205	473	3,678	+126
1938	3,472	149	3,621	3,115	531	3,646	— 25
1939	3,614	162	3,776	3,373	518	3,891	—115
1940	3,858	229	4,089	3,625	356	3,981	+106
1941	4,073	266	4,339	4,071	298	4,369	— 30
1942	4,034	99	4,133	3,972	321	4,293	—160
1943	4,372	174	4,546	4,168	411	4,579	— 33
1944	4,864	252	5,116	4,562	571	5,133	— 17
1945	4,997	306	5,303	4,837	503	5,340	— 37

[1] Includes crude oil, natural gasoline, related products and benzol. [2] Includes both refined and crude oils. [3] Includes military and civilian demand in continental United States and shipments to U. S. armed forces abroad. [4] Includes shipments to non-contiguous territories. [5] Includes changes in both refined and crude oil stocks. Minus signs indicate decreases and plus signs increases.

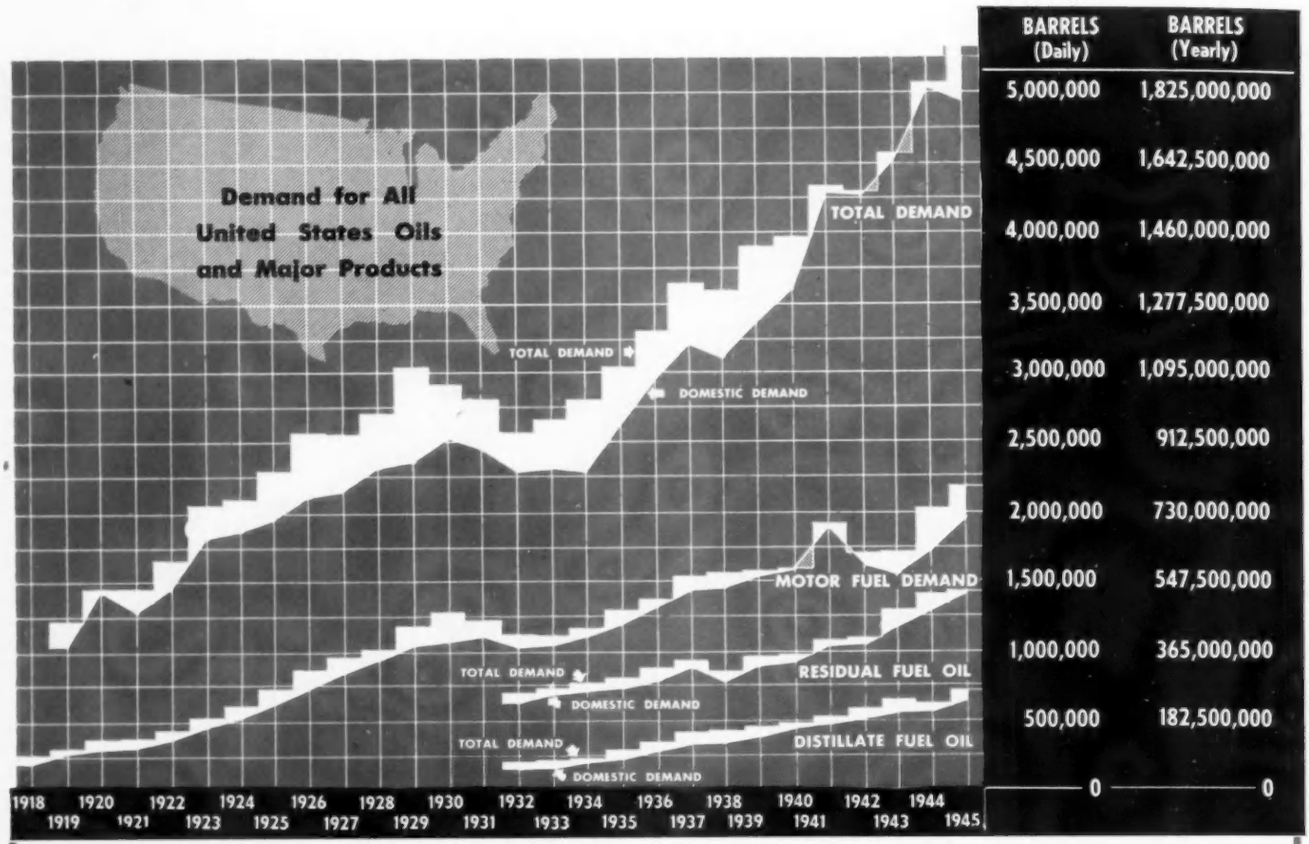
Data from Bureau of Mines, except for 1945, which has been estimated by The OIL WEEKLY.

Imports regularly consist mostly of special and heavy crude oils, residual fuel oil, and marine diesel oils, and act primarily as the means for balancing off supply with demand for certain products in a way to avoid waste or inefficient refinery operation. Therefore, the probable trend of imports is fairly clear, and is likely to involve some increases in receipts of residual fuel oil itself and of heavy crudes used for making that product, as well as other special products and special crudes. The need for imported residual fuel and heavy crude currently is accentuated by the fact that production of fuels from domestic sources is forcing heavy production and overstocking of gasoline. It is here forecast that total imports in 1946 will average about 365,000 barrels daily, up 19.3 percent from the 306,000 daily of 1945 and comparing with 266,000 daily in 1941. Crude oil imports are estimated at 210,000 daily for 1946, up 4.0 percent from the 202,000 daily indicated for 1945, and comparing with 139,000 daily in 1941. Imports of refined products, mostly residual fuel oil and marine diesel oil, are estimated at 155,000 barrels daily in 1946, up 49.0 percent from the 104,000 daily in 1945 and compared with 127,000 daily in 1941.

These estimates of imports leave 4,582,000 barrels daily of demand to be supplied from domestic production of crude oil and of natural gasoline and related oils. The production of natural gasoline and benzol may be expected to show no material change from the 311,000 barrels daily of 1945, and is here estimated at 305,000 barrels daily for 1946. This leaves a balance of about 4,277,000 barrels daily to be supplied by domestic production of crude oil. This rate of production allows only for meeting demand, and would not permit any additions to storage. Actually, stocks of crude oil are at minimum working levels in almost all areas at present, and some stock increase probably will be necessary to provide flexibility in crude oil movements, which is needed at the current rate of operations. Any such additions to stocks will require corresponding increases in domestic production over and

above the 4,277,000 barrels per day here forecast. Accordingly, it is indicated that domestic production of crude may be expected to average very close to 4,300,000 barrels daily in 1946.

All estimates above are upon an annual basis. By quarters, the year is expected to show important fluctuations. During January, crude production and refinery runs have been materially above the annual average projected (close to 4,600,000 barrels daily), and they are expected to continue at those relatively high rates through February, in meeting the seasonally heavy demand for fuel oils. In March, however, a fairly sharp cutback in refinery operations is expected in Districts 1, 2, and 3, due to the probability that available gasoline storage will be filled around the end of February. This sudden and rather drastic reduction in operations may be of the order of 400,000 barrels per day or so, it is predicted. The lower rate of operations likely will continue into or through June, and during those three or four months will be below the annual average. Then will come a step-up to meet summer demand for gasoline, and during the latter half of the year, operations may be expected to be at or slightly above the annual average, with a tendency to increase as time goes on.



Demand for All Oils — Demand for Motor Fuel

YEAR	TOTAL (Domestic and Export) Annual Total	TOTAL (Domestic and Export) Daily Average	DOMESTIC Annual Total	DOMESTIC Daily Average	EXPORTS Annual Total	EXPORTS Daily Average	TOTAL (Domestic and Export) Annual Total	TOTAL (Domestic and Export) Daily Average	DOMESTIC Annual Total	DOMESTIC Daily Average	EXPORTS Annual Total	EXPORTS Daily Average
1918.....	.....	.....	.....	.....	.....	.....	93,599,000	256,400	79,949,000	219,000	13,650,000	37,000
1919.....	438,434,000	1,201,200	374,541,000	1,026,100	63,893,000	175,100	97,790,000	267,900	88,648,000	242,900	9,142,000	25,000
1920.....	535,382,000	1,462,800	455,764,000	1,245,300	79,618,000	217,500	124,623,000	340,500	108,945,000	297,700	15,678,000	42,800
1921.....	592,402,000	1,450,400	457,521,000	1,253,300	71,881,000	196,900	130,203,000	356,700	116,840,000	320,100	13,363,000	36,600
1922.....	605,540,000	1,659,000	530,990,000	1,454,800	74,550,000	204,200	152,132,000	416,800	137,770,000	377,500	14,362,000	39,300
1923.....	754,361,000	2,066,700	652,027,000	1,786,400	102,334,000	280,300	195,556,000	535,800	174,462,000	478,000	21,094,000	57,800
1924.....	805,070,000	2,199,600	687,742,000	1,879,100	117,328,000	320,500	225,737,000	616,800	196,586,000	537,100	29,151,000	79,700
1925.....	840,818,000	2,303,600	726,797,000	1,991,200	114,021,000	312,400	264,429,000	724,500	232,745,000	637,700	31,684,000	86,800
1926.....	912,893,000	2,501,100	780,487,000	2,138,300	132,406,000	362,800	311,897,000	854,500	268,128,000	734,600	43,769,000	119,900
1927.....	944,762,000	2,588,400	802,499,000	2,198,600	142,263,000	389,800	350,318,000	959,800	305,367,000	836,600	44,951,000	123,200
1928.....	1,014,716,000	2,772,400	859,759,000	2,349,000	154,957,000	423,400	392,293,000	1,071,800	338,881,000	925,900	53,412,000	145,900
1929.....	1,103,203,000	3,022,500	940,083,000	2,575,600	163,120,000	446,900	444,937,000	1,219,000	382,878,000	1,049,000	62,059,000	170,000
1930.....	1,083,511,000	2,968,500	927,016,000	2,539,800	156,495,000	428,700	463,184,000	1,269,000	397,609,000	1,089,300	65,575,000	179,700
1931.....	1,027,274,000	2,814,500	902,920,000	2,473,800	124,354,000	340,700	453,559,000	1,242,600	407,843,000	1,117,400	45,716,000	125,200
1932.....	938,757,000	2,564,900	835,482,000	2,282,700	103,275,000	282,200	413,229,000	1,129,000	377,791,000	1,032,200	35,438,000	96,800
1933.....	975,214,000	2,671,800	868,487,000	2,379,400	106,727,000	292,400	409,815,000	1,122,800	380,494,000	1,042,500	29,321,000	80,300
1934.....	1,034,672,000	2,834,700	920,165,000	2,521,000	114,507,000	313,700	435,025,000	1,191,800	410,339,000	1,124,200	24,686,000	67,600
1935.....	1,112,672,000	3,048,400	983,685,000	2,695,000	128,987,000	353,400	465,423,000	1,275,100	434,810,000	1,191,200	30,613,000	83,900
1936.....	1,224,748,000	3,346,300	1,092,754,000	2,985,700	131,994,000	360,600	510,252,000	1,394,100	481,606,000	1,315,800	28,646,000	78,300
1937.....	1,342,516,000	3,678,100	1,169,682,000	3,204,600	172,834,000	473,500	557,658,000	1,527,800	519,352,000	1,422,900	38,306,000	104,900
1938.....	1,330,850,000	3,646,200	1,137,122,000	3,115,400	193,728,000	530,800	573,112,000	1,570,200	523,003,000	1,432,900	50,109,000	137,300
1939.....	1,420,035,000	3,890,500	1,231,076,000	3,372,800	188,959,000	517,700	600,147,000	1,644,200	555,509,000	1,521,900	44,638,000	122,300
1940.....	1,457,086,000	3,981,100	1,326,620,000	3,624,600	130,466,000	356,500	614,867,000	1,679,900	589,490,000	1,610,600	25,377,000	69,300
1941.....	1,594,609,000	4,368,800	1,485,779,000	4,070,600	108,830,000	298,200	694,588,000	1,903,000	667,505,000	1,828,800	27,083,000	74,200
1942.....	1,566,815,000	4,293,000	1,449,908,000	3,972,000	116,907,000	321,000	624,207,000	1,710,200	589,110,000	1,614,000	35,097,000	96,200
1943.....	1,671,383,000	4,579,000	1,521,426,000	4,168,000	149,957,000	411,000	619,815,000	1,698,100	568,238,000	1,556,800	51,577,000	141,300
1944.....	1,878,673,000	5,133,000	1,669,762,000	4,562,000	208,911,000	571,000	737,163,000	2,014,000	636,524,000	1,739,000	100,639,000	275,000
1945.....	1,949,213,000	5,340,000	1,765,475,000	4,837,000	183,738,000	503,000	799,989,000	2,192,000	713,775,000	1,956,000	86,214,000	236,000

Demand for and Supply of All Oils, Crude Petroleum, Motor Fuel, Kerosene and Fuel Oils

(Bureau of Mines figures except November and December, 1945, estimated with aid of A.P.I. Bulletins)

THOUSANDS OF BARRELS

ITEM	1941	1942	1943	1944	1945	% Diff. '44-'45
ALL OILS						
Domestic Production, Total	1,486,518	1,472,364	1,595,729	1,780,199	1,823,864	+ 2.45
(Daily Average)	4,073	4,034	4,372	4,864	4,997	+ 2.73
Crude Petroleum	1,402,228	1,386,645	1,505,613	1,677,753	1,710,275	+ 1.94
(Daily Average)	3,842	3,799	4,125	4,584	4,686	+ 2.23
Natural Gasoline	80,855	83,322	87,716	100,046	110,709	+10.66
(Daily Average)	222	228	240	273	303	+10.99
Benzol	3,435	2,397	2,400	2,400	2,880	+20.00
(Daily Average)	9	7	7	7	8	+14.28
Imports, Total	97,142	35,966	63,412	92,256	111,682	+21.06
(Daily Average)	266	99	174	252	306	+21.43
Crude Petroleum	50,606	12,297	13,833	44,805	73,892	+64.92
(Daily Average)	139	34	38	122	202	+65.57
Refined Products	46,536	23,669	49,579	47,451	37,790	−20.36
(Daily Average)	127	65	136	130	104	−20.00
Changes in Stocks, All Oils	−10,949	−58,485	−12,242	−6,218	−13,667	.....
(Daily Average)	−30	−160	−34	−17	−37	.....
Stocks, Beginning of Year	563,277	556,425	497,940	*483,307	477,089	− 1.29
Refinable Crude	264,709	247,499	234,889	*242,132	220,862	− 8.78
Heavy Crude in California	11,906	10,179	10,865	*7,272	6,107	−16.02
Refined Products	280,958	294,310	247,554	229,362	245,868	+ 7.20
Natural Gasoline	5,704	4,437	4,632	4,541	4,252	− 6.36
Stocks, End of Year	552,328	497,940	485,698	477,089	463,422	− 2.86
(Days' Supply)	127	116	106	93	87	− 6.45
Refinable Crude	247,499	234,889	243,506	220,862	218,918	− 0.88
Heavy Crude in California	10,179	10,865	8,289	6,107	4,505	−26.23
Refined Products	290,375	247,554	229,362	245,868	235,999	− 4.01
Natural Gasoline	4,275	4,632	4,541	4,252	4,000	− 5.93
Demand, Total	1,594,609	1,566,815	1,671,383	1,878,673	1,949,213	+ 3.75
(Daily Average)	4,369	4,293	4,579	5,133	5,340	+ 4.03
Exports, Total	108,830	116,907	149,957	208,911	183,738	−12.05
(Daily Average)	298	321	411	571	503	−11.91
Crude Petroleum, Total	33,238	33,834	41,342	34,238	34,270	+ 0.09
(Daily Average)	91	93	113	94	94	0.00
Refined Products, Total	75,592	83,073	108,615	174,673	149,468	−14.43
(Daily Average)	207	228	298	477	409	−14.26
Domestic Demand, Total	1,485,779	1,449,908	1,521,426	1,669,762	1,765,475	+ 5.73
(Daily Average)	4,071	3,972	4,168	4,562	4,837	+ 6.03

ITEM	1941	1942	1943	1944	1945	% Diff. '44-'45
CRUDE PETROLEUM						
Demand by Source—						
Domestic Production, Total	1,402,228	1,386,645	1,505,613	1,677,753	1,710,275	+ 1.94
(Daily Average)	3,842	3,799	4,125	4,584	4,686	+ 2.23
Imports, Total	50,606	12,297	13,833	44,805	73,892	+64.92
(Daily Average)	139	34	38	122	202	+65.57
Change in Stocks, Refinable	−17,210	−12,610	+8,617	−21,270	−1,944	.....
(Daily Average)	−47	−35	+27	−58	−5	.....
Stocks, Beginning of Year	264,709	247,499	234,889	*242,132	220,862	− 8.78
Stocks, End of Year	247,499	234,889	243,506	220,862	218,918	− 0.88
(Days' Supply)	61	61	58	46	45	− 2.17
Demand, Total	1,470,044	1,411,552	1,510,829	1,743,828	1,786,111	+ 2.42
(Daily Average)	4,027	3,867	4,139	4,765	4,893	+ 2.69
Demand by Use—						
Runs to Stills, Total	1,409,192	1,334,103	1,429,738	1,665,684	1,723,294	+ 3.46
(Daily Average)	3,861	3,655	3,917	4,551	4,721	+ 3.74
Domestic Crude	1,358,246	1,319,507	1,417,559	1,622,514	1,651,057	+ 1.76
(Daily Average)	3,721	3,615	3,884	4,433	4,523	+ 2.03
Foreign Crude	50,946	14,596	12,179	43,170	72,237	+67.33
(Daily Average)	140	40	33	118	198	+67.80
Exports, Total	33,238	33,834	41,342	34,238	34,270	+ 0.09
(Daily Average)	91	93	113	94	94	.....
Transfers to Fuel Oil Stocks	15,482	21,779	27,457	31,757	24,771	−22.00
(Daily Average)	42	59	74	87	68	−21.84
Used as Fuel, and Losses	12,132	21,836	12,592	12,149	3,776	−68.92
(Daily Average)	33	60	35	33	10	−69.70
Demand, Total	1,470,044	1,411,552	1,510,829	1,743,828	1,786,111	+ 2.42
(Daily Average)	4,027	3,867	4,139	4,765	4,893	+ 2.69

ITEM	1941	1942	1943	1944	1945	% Diff. '44-'45
MOTOR FUEL						
Production, Total	701,294	608,900	608,180	743,484	802,013	+ 7.87
(Daily Average)	1,921	1,668	1,666	2,031	2,197	+ 8.17
Imports, Total	335	115	5,736	3,148	1,958	−37.80
(Daily Average)	1	.....	16	9	5	.....
Change in Stocks	+7,041	−15,192	−5,899	+9,469	+3,982	.....
(Daily Average)	+19	−42	−16	+26	+11	.....
Stocks, Beginning of Year	83,647	*90,596	75,404	*68,405	77,874	+13.84
Finished Gasoline	77,943	*86,159	70,772	*63,864	73,622	+15.28
Natural Gasoline	5,704	*4,437	4,632	4,541	4,252	− 6.36
Stocks, End of Year	90,688	75,404	69,505	77,874	91,280	+17.21
(Days' Supply)	48	44	41	39	42	+ 7.69
Finished Gasoline	86,413	70,772	64,964	73,622	87,280	+18.55
Natural Gasoline	4,275	4,632	4,541	4,252	4,000	− 5.93
Demand, Total	694,588	624,207	619,815	737,163	799,989	+ 8.52
(Daily Average)	1,903	1,710	1,698	2,014	2,192	+ 8.84
Exports, Total	27,083	35,097	51,577	100,639	86,214	−14.33
(Daily Average)	74	96	141	275	236	−14.18
Domestic Demand	667,505	589,110	568,238	636,524	713,775	+12.14
(Daily Average)	1,829	1,614	1,557	1,739	1,956	+12.48

ITEM	1941	1942	1943	1944	1945	% Diff. '44-'45
KEROSENE						
Production, Total	72,586	67,474	72,270	78,344	80,965	+ 3.35
(Daily Average)	199	185	198	214	222	+ 3.74
Percent Yield from Crude	5.2	5.1	5.1	4.7	4.7	.....
Imports, Total	191	418	375	147	.....	.....
(Daily Average)	1	1	1	.....	.....	.....
Change in Stocks	+87	−4,451	−705	+1,791	−949	.....
(Daily Average)	.....	−12	−2	+5	−3	.....
Stocks, Beginning of Year	9,512	*14,515	10,064	9,359	11,150	+19.14
Stocks, End of Year	9,599	10,064	9,359	11,150	10,201	− 8.51
(Days' Supply)	73	51	46	53	46	−13.21
Demand, Total	72,690	72,343	73,350	76,700	81,914	+ 6.80
(Daily Average)	199	198	201	210	224	+ 6.67
Exports, Total	3,221	2,576	4,752	4,765	6,607	+38.66
(Daily Average)	9	7	13	13	18	+38.46
Domestic Demand	69,469	69,767	68,598	71,935	75,307	+ 4.69
(Daily Average)	190	191	188	197	206	+ 4.57

ITEM	1941	1942	1943	1944	1945	% Diff. '44-'45
DISTILLATE FUEL OIL						
Production, Total	189,177	196,714	211,516	239,152	250,007	+ 4.54
(Daily Average)	518	539	579	653	685	+ 4.90
Percent Yield from Crude	13.4	14.7	14.8	14.4	14.5	.....
Transfers from Crude	2,513	2,496	3,070	3,242	3,025	− 6.69
(Daily Average)	7	7	8	9	8	.....
Imports, Total	5,074	3,636	15,269	7,096	4,157	−41.42
(Daily Average)	14	10	42	19	11	−42.11
Change in Stocks	+7,015	−4,390	−3,212	−3,395	−1,682	.....
(Daily Average)	+19	−12	−9	−9	−5	.....
Stocks, Beginning of Year	42,911	*49,330	44,940	41,728	38,333	− 8.14
Stocks, End of Year	49,926	44,940	41,728	38,333	36,651	− 4.39
(Days' Supply)	95	79	73	55	52	− 5.45
Demand, Total	189,749	207,236	233,067	252,885	258,871	+ 2.37
(Daily Average)	520	568	570	691	709	+ 2.60
Exports, Total	16,925	21,575	24,957	43,345	34,570	+20.24
(Daily Average)	46	59	68	118	95	−19.49
Domestic Demand	172,824	185,661	208,110	209,540	224,301	+ 7.04
(Daily Average)	474	509	638	573	614	+ 7.16

ITEM	1941	1942	1943	1944	1945	% Diff. '44-'45
RESIDUAL FUEL OIL						
Production, Total	342,367	358,901	417,306	461,455	467,867	+ 1.39
(Daily Average)	959	983	1,143	1,262	1,282	+ 1.58
Percent Yield from Crude	24.3	26.9	29.2	27.7	27.1	.....
Transfers from Crude	12,969	19,283	24,087	28,515	21,746	−23.74
(Daily Average)	36	53	66	78	60	.....
Imports, Total	37,369	18,432	27,210	36,553	30,775	−15.81
(Daily Average)	102	50	74	100	84	−16.00
Change in Stocks	−4,831	−21,176	−13,299	+1,899	−12,441	.....
(Daily Average)	−13	−58	−36	+5	−34	.....
Stocks, Beginning of Year	88,026	*82,959	61,783	48,484	50,383	+ 3.92
Stocks, End of Year	83,195	61,783	48,484	50,383	37,942	−24.69
(Days' Supply)	76	54	37	35	26	−25.71
Demand, Total	397,536	417,792	481,902	524,624	532,829	+ 1.56
(Daily Average)	1,089	1,144	1,320	1,433	1,460	+ 1.88
Exports, Total	14,114	12,095	14,894	13,827	12,139	−12.21
(Daily Average)	39	33	41	38	33	−13.16
Domestic Demand	383,422	405,697	467,008	510,797	520,690	+ 1.94
(Daily Average)	1,050	1,111	1,279	1,395	1,427	+ 2.29

* Revised figures to compare with stocks shown for end of year.

1945 World Crude Output

Sharp increase in rate of production outside the United States accounts for gain of almost 500,000 barrels daily. Indicated decline in dometsic output may check global upward trend.

STIMULATED by the tremendous demands of intensive warfare during the first half of the year, and later by military redeployment and postwar rehabilitation, world crude production in 1945 attained an unprecedented volume that is likely to remain the peak for several years.

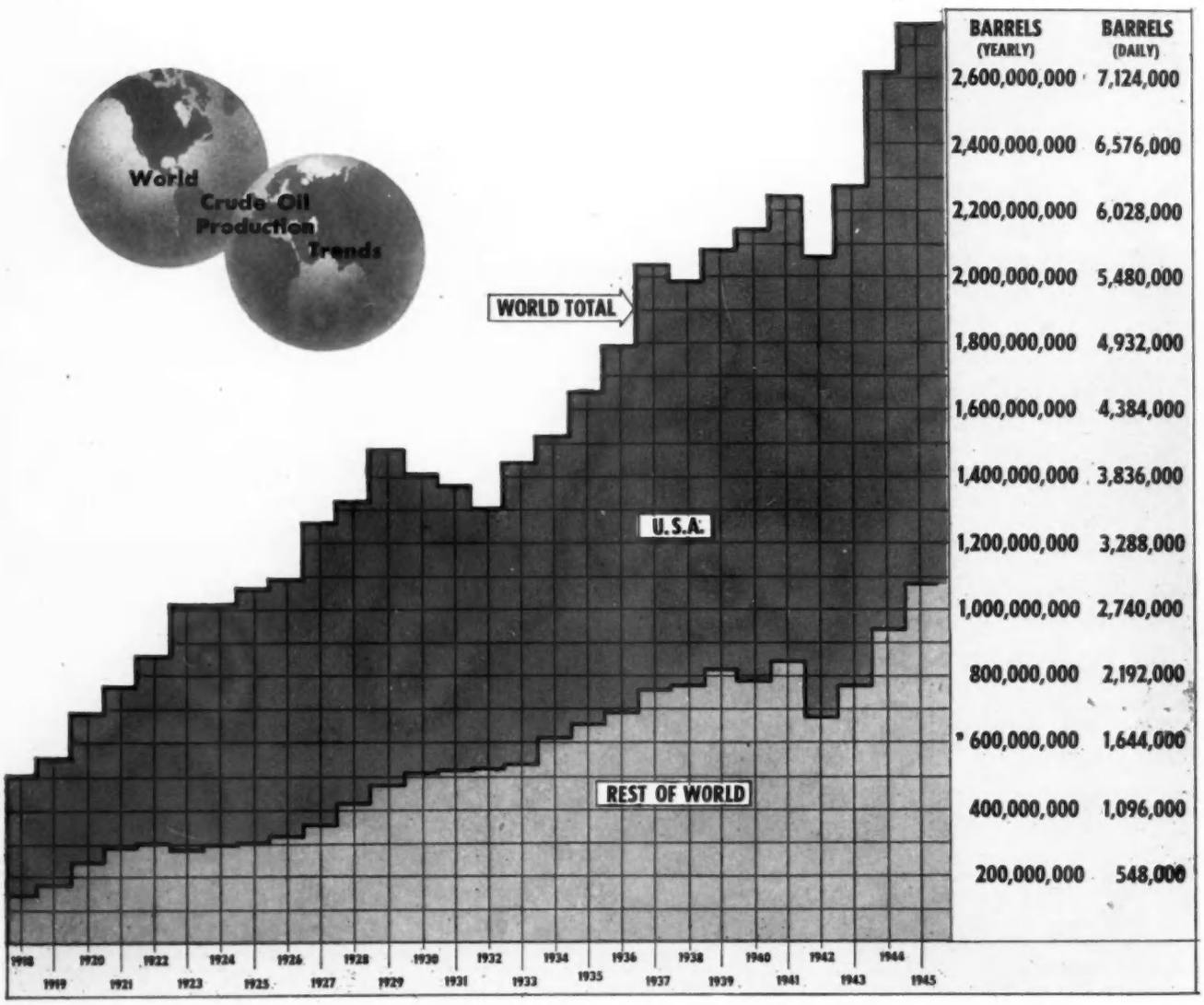
World production of crude in 1945 was 2,768,885,000 barrels, a daily average of 7,586,000 barrels. In comparison with 1944, this constituted an increase of 146,951,000 barrels annually and 422,300 barrels daily, a gain of slightly less than 6 percent.

The magnitude of the growth of world producing rates in recent years is more clearly indicated by a comparison with 1941, which was far above any preceding years. In that year, global output amounted to 6,158,000 barrels daily, or almost 1½ million barrels under the volume produced in 1945.

Although the United States produced a record volume, crude production of the rest of the world increased much more sharply. Whereas the output of the United States rose 32½ million barrels, or 100,000 barrels per day, over 1944 that of the rest of the world rose more than three times as rapidly, climbing 141 million barrels or 320,000 barrels daily. The combined production of all countries outside the United States in 1945 was more than million barrels per day over its 1942 level. During the same period, United States production was rising 885,000 barrels daily.

Twenty of the 35 producing nations produced more oil in 1945 than in the preceding year, a number of countries, principally those in the war zones of Europe and the Far East, experienced reduced producing rates.

The largest gain in production of any



Mark May Stand for Years

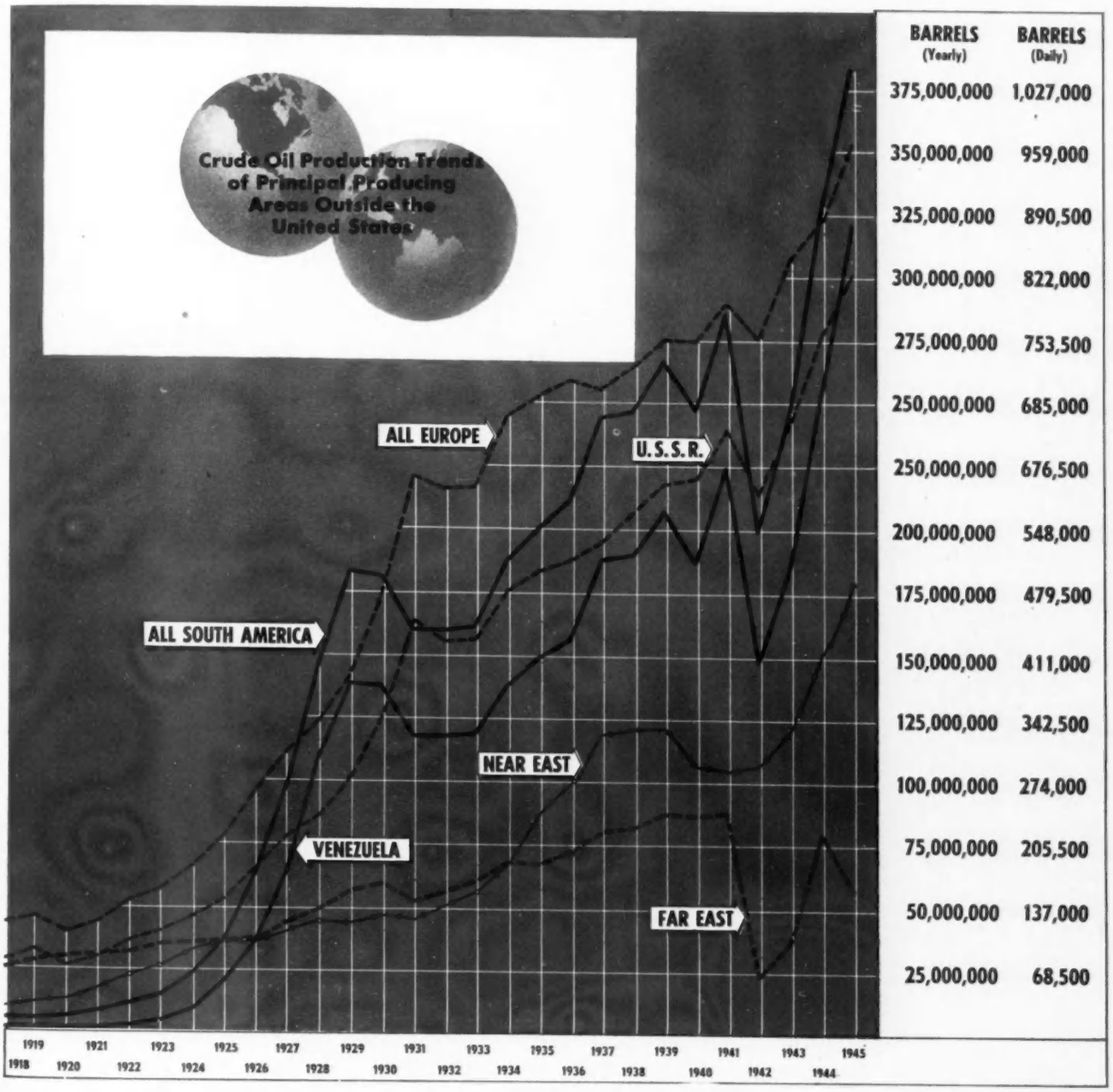
single country was in Venezuela, which produced nearly 322 million barrels in contrast with 257 million in 1944. Venezuela's production was close to twice its 1938 rate. On a daily basis, Venezuela produced 882,000 barrels in 1945, an increase of 179,600 over 1944. This was a gain of 25 percent.

In comparison, the United States, which had the second largest gain, produced only 100,000 barrels more per day in 1945 than in the preceding year, an increase of but 2.2 percent. Details regarding United States production are presented in another article in this issue.

The larger output of Venezuela boosted the production of South America to a daily average of 1,052,033 for the year. Bolivia and Colombia had small increases, but their gains did not offset declines in Argentina, Ecuador and Peru.

The Near East also produced substantially more oil in 1945 than ever before, and as is well known is to be the source of even greater quantities in forthcoming years. Production of all the Near East countries (Bahrein Island, Iran, Iraq and Saudi Arabia) averaged 488,230 barrels daily during 1945, an increase of almost a 100,000 barrels over 1944. This was a gain of 23.7 percent.

Every Near East area produced larger volumes. Sharpest percentage gain of any country in the world during the year occured in Saudi Arabia, where output increased 168 percent. Its production in 1945 was 57,000 barrels daily, against 21,000 barrels in 1944. Recent completion of additional refining facilities will



Prewar and Recent Trends in World Crude Oil Production, by Continents and Countries, and Cumulative Production Through 1945

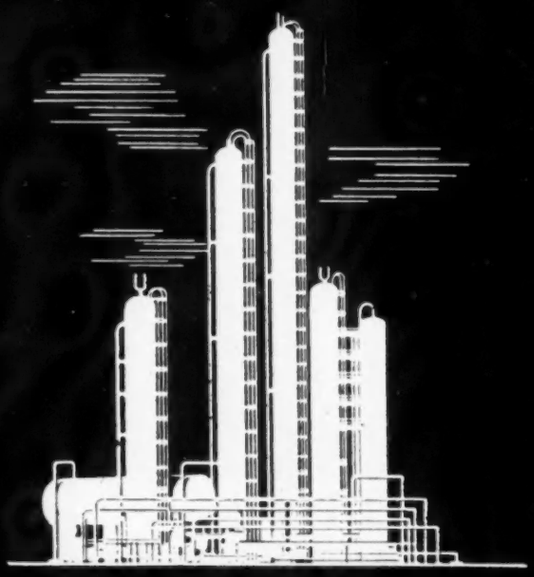
CONTINENT AND COUNTRY	ANNUAL PRODUCTION (Thousands of Barrels)			DAILY AVERAGE PRODUCTION (Actual Barrels)				YEAR'S PRODUCTION AS PERCENT OF WORLD			CUMULATIVE PRODUCTION TO JANUARY 1, 1946 (Thousands of Bbls.)	
	1938	1944	1945	1938	1944	1945	% Diff. '44-'45	1938	1944	1945	Total	As % of World
NORTH AMERICA—												
Canada	6,966	9,723	8,197	19,083	26,566	22,458	— 15.46	0.35	0.37	0.29	113,609	0.23
Mexico	38,506	38,197	41,975	105,496	104,363	115,000	+ 10.19	1.94	1.45	1.51	2,183,723	4.42
Trinidad	17,737	22,000	21,500	48,594	60,109	58,904	— 2.00	0.89	0.84	0.78	313,994	0.64
United States	1,214,355	1,677,753	1,710,275	3,327,000	4,584,024	4,685,684	+ 2.22	61.08	63.99	61.77	31,486,933	63.75
Other North America	78	175	182	214	478	499	+ 4.39	0.01	0.01	0.01	1,382	0.00
Total North America	1,277,642	1,747,848	1,782,129	3,500,389	4,775,540	4,882,545	+ 2.24	64.27	66.66	64.36	34,099,641	69.04
SOUTH AMERICA—												
Argentina	17,076	24,230	22,804	46,784	66,202	62,477	— 5.63	0.86	0.93	0.82	343,267	0.70
Bolivia	226	314	405	619	858	1,110	+ 29.37	0.01	0.01	0.02	2,965	0.01
Colombia	21,582	22,647	22,743	59,129	61,877	62,310	+ 0.70	1.09	0.87	0.82	371,282	0.75
Ecuador	2,246	2,967	2,708	6,153	8,107	7,419	— 8.49	0.11	0.11	0.10	36,914	0.07
Peru	15,839	14,386	13,365	43,395	39,306	36,616	— 6.84	0.80	0.55	0.48	332,908	0.67
Venezuela	188,174	257,046	321,902	515,545	702,311	881,923	+ 25.57	9.46	9.80	11.63	3,201,425	6.48
Other South America	.....	58	65	.....	159	178	+ 11.95	.....	0.00	0.00	196	0.00
Total South America	245,143	321,648	383,992	671,625	878,820	1,052,033	+ 19.71	12.33	12.27	13.87	4,288,957	8.68
EUROPE—												
Albania	752	765	750	2,060	2,090	2,055	— 1.67	0.04	0.03	0.03	9,583	0.02
Czechoslovakia	130	125	125	356	341	342	.....	0.01	0.01	0.01	3,161	0.01
England	.....	670	500	.....	1,831	1,370	— 25.18	.....	0.03	0.02	2,715	0.01
France	513	500	500	1,406	1,366	1,370	+ 0.29	0.02	0.02	0.02	13,743	0.03
Germany	3,861	4,000	3,950	10,578	10,929	10,822	— 0.98	0.19	0.15	0.14	71,045	0.14
Austria	383	9,758	7,350	1,049	26,661	20,137	— 24.47	0.02	0.37	0.27	32,910	0.07
Hungary	288	8,300	7,500	789	22,677	20,548	— 9.39	0.01	0.32	0.27	35,136	0.07
Italy	101	35	35	277	96	96	0.00	0.01	0.00	0.00	3,023	0.01
Poland	3,763	2,700	3,000	10,310	7,377	8,219	+ 11.41	0.19	0.10	0.11	278,714	0.56
Roumania	48,487	20,000	33,000	132,841	54,645	90,411	+ 65.45	2.44	0.76	1.19	1,079,140	2.18
U. S.S.R. (Russia)	204,956	275,000	300,000	561,523	751,366	821,918	+ 9.39	10.31	10.49	10.83	5,670,539	11.48
Other Europe	9	50	75	25	137	205	+ 49.64	0.00	0.00	0.00	191	0.00
Total Europe	263,243	321,903	356,785	721,214	879,516	977,493	+ 11.14	13.24	12.28	12.89	7,199,900	14.58
AFRICA—												
Egypt	1,581	9,125	9,500	4,331	24,932	26,027	+ 4.39	0.08	0.35	0.34	87,830	0.18
Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.00	143	0.00
Other Africa	27	25	25	74	68	69	.....	0.00	0.00	0.00	238	0.00
Total Africa	1,608	9,150	9,525	4,405	25,000	26,09	+ 4.10	0.08	0.35	0.34	88,211	0.18
ASIA—												
Near East:												
Bahrein Island	8,298	6,714	7,304	22,734	18,344	20,011	+ 9.09	0.42	0.26	0.26	73,561	0.15
Iran (Persia)	78,372	102,000	122,000	214,718	278,689	334,247	+ 19.94	3.94	3.89	4.41	1,472,832	2.98
Iraq	32,643	27,958	28,100	89,433	76,388	76,966	+ 0.78	1.64	1.06	1.02	302,759	0.62
Saudi Arabia	495	7,763	20,800	1,356	21,210	56,986	+168.68	0.03	0.30	0.75	54,318	0.11
Total Near East	119,808	144,435	178,204	328,241	394,631	488,230	+ 23.72	6.03	5.51	6.44	1,903,470	3.86
Far East:												
Burma	7,538	750	750	20,652	2,049	2,055	+ 0.29	0.38	0.03	0.03	} 327,840	0.66
India, British	2,488	3,000	3,000	6,816	8,197	8,219	+ 0.27	0.12	0.11	0.11		
China	.....	150	150	.....	410	411	+ 0.24	.....	0.01	0.01	400	.....
Japan (incl. Taiwan)	2,511	3,000	2,500	6,879	8,197	6,849	— 16.45	0.13	0.11	0.09	98,550	0.20
Sakhalin	3,821	5,000	4,800	10,469	13,661	13,151	— 3.73	0.19	0.19	0.17	60,040	0.12
Borneo, British (Sarawak & Brunei)	6,913	15,000	12,000	18,940	40,983	32,877	— 19.78	0.35	0.57	0.43	148,532	0.30
Netherlands' India	57,318	50,000	35,000	157,036	136,612	95,890	— 29.81	2.88	1.91	1.26	1,172,807	2.38
Total Far East	80,589	76,900	58,200	220,792	210,109	159,452	— 24.11	4.05	2.93	2.10	1,808,169	3.66
Other Asia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Asia	200,397	221,335	236,404	549,033	604,740	647,682	+ 7.10	10.08	8.44	8.54	3,711,639	7.52
AUSTRALIA—NEW ZEALAND	4	25	25	11	68	68	.....	0.00	0.00	0.00	107	0.00
World Undistributed	4	25	25	11	68	68	.....	0.00	0.00	0.00	1,148	0.00
Total World	1,988,041	2,621,934	2,768,885	5,446,688	7,163,754	7,585,986	+ 5.89	100.00	100.00	100.00	49,389,603	100.00

permit Saudi Arabia to produce slightly in excess of 100,000 barrels daily, so its 1946 yield should be almost double its peak of 1945.

Iran produced an average of 334,200 barrels daily in 1945, which contrasted with 278,600 barrels in 1944, a gain of 20 percent. Small increases occurred in Bahrein Island and Iraq. The latter is limited by pipe line capacity, which is to be doubled. However, the new pipe line will not be in operation until sometime in 1947. Meanwhile, Kuwait is to enter the Near East producing list. Facilities, consisting of a short pipe line to the Persian Gulf, are being completed. Kuwait is scheduled to produce 30,000 barrels daily.

Output of crude oil in Europe rose 11 percent above 1944, due to larger yields from the U.S.S.R. and Roumania. Russia produced 822,000 barrels daily the past year, an increase of 100,000 barrels or 9 percent. Roumania produced 90,400 barrels per day, far above its 54,600 barrel yield in 1944, when military activities severely curtailed operations. Despite its gain of 98,000 barrels daily, Europe dropped from second to third place among the continents as an oil producer, South America taking over the runner-up position with its sharp surge.

Output in the Far East area is estimated to have slumped sharply. No accurate data are available. Most of the region was Japanese-occupied for a good part of the year. However, these countries experienced some war ravages and it has been impossible to get experienced crews back into some of them to operate the fields.



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World Crude Oil Production, by Countries, by Years

(Complete production history of world, in thousands of barrels of 42 U. S. Gallons. *Sources: Mineral Resources and Minerals Yearbook*, except as otherwise indicated)

	NORTH AMERICA						SOUTH AMERICA							
YEAR	Canada	Mexico	Trinidad	United States	Other North America	Total North America	Argentina	Bolivia	Colombia	Ecuador	Peru	Venezuela	Other South America	Total South America
1857														
1858														
1859				2		2								
1860				500		500								
1861				2,114		2,114								
1862	12			3,057		3,069								
1863	83			2,611		2,694								
1864	90			2,116		2,206								
1865	110			2,498		2,608								
1866	175			3,598		3,773								
1867	190			3,347		3,537								
1868	200			3,646		3,846								
1869	220			4,215		4,435								
1870	250			5,261		5,511								
1871	270			5,205		5,475								
1872	308			6,293		6,601								
1873	365			9,894		10,259								
1874	169			10,927		11,096								
1875	220			8,788		9,008								
1876	312			9,133		9,445								
1877	312			13,350		13,662								
1878	312			15,397		15,709								
1879	575			19,914		20,489								
1880	350			26,286		26,636								
1881	275			27,661		27,936								
1882	275			30,350		30,625								
1883	250			23,450		23,700								
1884	250			24,218		24,468								
1885	250			21,859		22,109								
1886	584			28,065		28,649								
1887	526			28,283		28,809								
1888	695			27,612		28,307								
1889	705			35,164		35,869								
1890	795			45,824		46,619								
1891	755			54,293		55,048								
1892	780			50,515		51,295								
1893	798			48,431		49,229								
1894	829			49,344		50,173								
1895	726			52,892		53,618								
1896	727			60,960		61,687					47			47
1897	710			60,476		61,186					71			71
1898	758			55,364		56,122					71			71
1899	808			57,071		57,879					89			89
1900	913			63,621		64,534					274			274
1901	757	10		69,389		70,156					275			275
1902	531	40		88,767		89,338					287			287
1903	487	75		100,461		101,023					278			278
1904	553	126		117,081		117,760					290			290
1905	634	251		134,717		135,602					373			373
1906	569	502		126,494		127,565					531			531
1907	789	1,005		166,095		167,889	[D]				751			751
1908	528	3,933	[D]	178,527		182,988	12				945			957
1909	421	2,714	57	183,171		186,363	18				1,411			1,429
1910	316	3,634	143	209,557		213,650	20				1,258			1,278
1911	291	12,553	285	220,449		233,578	13				1,465			1,478
1912	243	16,558	437	222,935		240,173	47				1,752			1,799
1913	228	25,696	504	248,446		274,874	131				2,071			2,202
1914	215	26,235	644	265,763		292,857	276				1,837			2,113
1915	215	32,911	750	281,104		314,980	513				2,579			3,092
1916	198	40,546	929	300,767		342,440	867				2,593			3,460
1917	214	55,293	1,602	335,316		392,425	1,218			57	2,577	120		3,972
1918	305	63,828	2,082	355,928		422,143	1,353			[E]60	2,527	333		4,273
1919	241	87,073	1,841	378,367		467,522	1,331			[E]60	2,628	425		4,444
1920	196	157,069	2,083	442,929		602,277	1,651			[E]60	2,817	457		4,985
1921	188	193,398	2,354	472,183		668,123	2,036		67	[E]60	3,699	1,433		7,295
1922	179	182,278	2,445	557,531		742,433	2,866		323	[E]60	5,314	2,201		10,764
1923	170	149,585	3,051	732,407		885,213	3,400		425	87	5,699	4,201		13,812
1924	161	139,678	4,057	713,940		857,836	4,639		445	[E]100	8,379	9,042		22,605
1925	332	115,515	4,387	763,743		883,977	6,336		1,007	160	9,232	19,687		36,422
1926	364	90,421	4,971	770,874		866,630	7,851		6,444	214	10,762	36,911		62,182
1927	477	64,121	5,380	901,129		971,107	8,630		15,014	537	10,127	63,134		97,442
1928	624	50,151	7,684	901,474		959,933	9,070		19,897	1,084	12,006	105,749		147,806
1929	1,117	44,688	8,716	1,007,323		1,061,844	9,391	[D]	20,385	1,381	13,422	137,472		182,051
1930	1,522	39,530	9,419	898,011		948,482	9,002	56	20,346	1,553	12,449	136,669		180,075
1931	1,543	33,039	9,744	851,081		895,407	11,709	25	18,237	1,762	10,089	116,613		158,435
1932	1,044	32,805	10,126	785,159		829,134	13,139	44	16,414	1,597	9,899	116,541		157,634
1933	1,145	34,001	9,561	905,656	23	950,386	13,691	112	13,158	1,620	13,257	117,720		159,558
1934	1,417	38,172	10,894	908,065	28	958,576	14,024	159	17,341	1,637	16,314	136,103		185,578
1935	1,447	40,241	11,671	996,596	47	1,050,002	14,297	164	17,598	1,732	17,067	148,254		199,112
1936	1,500	41,028	13,237	1,099,687	62	1,155,514	15,458	105	18,756	1,942	17,593	154,794		208,648
1937	2,944	46,907	15,503	1,279,160	33	1,344,547	16,355	122	20,599	2,161	17,457	186,230		242,924
1938	6,966	38,506	17,737	1,214,355	78	1,277,642	17,076	226	21,582	2,246	15,839	188,174		245,143
1939	7,838	42,898	19,270	1,264,962	112	1,335,080	18,613	215	23,857	2,313	13,508	206,470		264,976
1940[H]	8,718	44,036	20,219	1,353,214	142	1,426,329	20,609	288	25,593	2,349	12,126	185,570		246,535
1941[K]	[L]10,124	[L]42,895	21,211	[M]1,402,228	150	1,476,608	[L]22,013	230	24,553	1,557	11,922	223,784	3	284,062
1942[K]	[L]10,363	[L]34,716	[N]24,500	[M]1,386,645	150	1,456,374	[L]23,742	250	10,590	[P]2,350	[N]13,500	[N]145,000	30	195,462
1943[K]	[L]10,643	[L]34,890	23,000	1,503,614	200	1,572,347	[P]24,836	250	13,261	[P]2,500	15,700	[L]179,390	40	235,977
1944[K]	[L]9,723	[L]38,197	22,000	1,677,753	175	1,747,848	24,230	314	22,647	2,967	14,386	[L]257,046	58	321,648
1945[K]	8,197	41,975	21,500	1,710,275	182	1,782,129	22,804	405	22,743	2,708	13,365	321,902	65	383,992
Total	113,609	2,183,723	313,994	31,486,933	1,382	34,099,641	343,267	2,965	371,282	36,914	332,908	3,201,425	196	4,288,957

[A] Separation of Burma and India prior to 1935 not available from U. S. Bureau of Mines data here used. Data by L. Dudley Stamp in "Petroleum Development and Technology, 1933," and in A.I.M.E. "Transactions" indicate cumulatives through 1934 as follows, Burma 134,528, India 20,756. [B] Includes fields in Russian Asia other than Sakhalin. [C] Exclusive of U.S.S.R. fields in Asia, other than Sakhalin, which are included with U.S.S.R. in Europe. [D] Less than 1000 barrels. [E] Approximate production. [F] No more data available. [G] Year Ended September 30. [H] All figures for 1940 and 1941, except as footnoted, from U.S.B. of M.'s "International Petroleum Trade," March 31, 1942. [I] Beginning of production in Brunei. [J] France's earlier production credited to Germany. [K] 1942, 1943, 1944, and 1945 estimated by The Oil Weekly, except as footnoted. [L] Government sources. [M] Revised B. of M. figure. [N] A.I.M.E. Transactions, 1943. [P] P.I.W.C. report. [R] Oil Weekly estimate.

World Crude Oil Production, by Countries, by Years — (Continued)

(Complete production history of world, in thousands of barrels of 42 U. S. Gallons. *Sources: Mineral Resources and Minerals Yearbook*, except as otherwise indicated)

	EUROPE												AFRICA			
YEAR	Albania	Czechoslovakia	England	France	Germany	Austria	Hungary	Italy	Poland	Roumania	[B]U.S.S.R. (Russia)	Other Europe	[B]Total Europe	Egypt	Algeria	Other Africa	Total Africa
1857										2			2				
1858										4			4				
1859										4			4				
1860								[D]		9			9				
1861								[D]		17			17				
1862								[D]		23			23				
1863								[D]		28	41		69				
1864								[D]		33	65		98				
1865								2		39	67		108				
1866								1		42	83		126				
1867								1		51	120		172				
1868								[D]		56	88		144				
1869								[D]		59	202		261				
1870								[D]		84	204		288				
1871								[D]		90	165		255				
1872								[D]		91	185		276				
1873								[D]		104	475		579				
1874								1	150	103	583		837				
1875								1	158	108	697		964				
1876								3	164	111	1,321		1,599				
1877								3	170	108	1,801		2,082				
1878								4	176	109	2,401		2,690				
1879								3	215	110	2,761		3,089				
1880					9			2	229	115	3,001		3,356				
1881					29			1	287	122	3,601		4,040				
1882					58			2	330	136	4,538		5,064				
1883					27			2	365	139	6,002		6,535				
1884					46			3	408	211	10,805		11,473				
1885					41			2	465	193	13,925		14,626				
1886					74			2	306	168	18,006		18,556				
1887					74			1	344	182	18,368		18,969				
1888					85			1	467	219	23,049		23,821				
1889					68			1	515	298	24,609		25,491				
1890					108			3	659	383	28,691		29,844				
1891					109			8	631	488	34,573		35,809				
1892					101			18	646	593	35,775		37,133				
1893					100			19	693	535	40,457		41,804				
1894					123			21	949	508	36,375		37,976				
1895					121			26	1,453	576	46,140		48,316				
1896					145			18	2,444	543	47,221		50,371				
1897					166			14	2,226	571	54,399		57,376				
1898					184			15	2,376	776	61,610		64,961				
1899					192			16	2,314	1,426	65,955		69,903				
1900					358			12	2,347	1,629	75,780		80,126				
1901					314			16	3,251	1,678	85,168		90,427				
1902					354			19	4,142	2,060	80,540		87,115				
1903					446			18	5,235	2,763	75,591		84,053				
1904					637			26	5,947	3,599	78,537		88,746				
1905					561			44	5,766	4,421	54,960		65,752				
1906					579			54	5,468	6,378	58,897		71,376				
1907					757			60	8,456	8,118	61,851		79,242				
1908					1,009			51	12,612	8,252	62,187		84,111				
1909					1,019			42	14,933	9,327	65,970		91,291				
1910					1,032			51	12,673	9,724	70,337		93,817				
1911					1,017			75	10,519	11,108	66,184		88,903	21			21
1912					1,031			54	8,535	12,976	68,019		90,615	214			214
1913					857			47	7,818	13,555	62,834		85,111	98			98
1914					781			40	6,436	12,827	67,020		87,104	753	1		754
1915					703			44	5,352	12,030	68,548		86,677	212	4		216
1916					656			51	6,587	8,945	65,817		82,056	404	8		412
1917				[J]	642			41	6,228	3,721	63,072		73,704	943	9		952
1918				363	270			35	6,032	8,730	27,168		42,598	1,935	7		1,942
1919		48	2	334	265			35	6,096	6,618	31,752		45,150	1,517	5		1,522
1920		69	3	356	246			35	5,607	7,435	25,430		39,181	1,042	4		1,046
1921		94	3	389	274			32	5,167	8,368	28,968		43,295	1,255	3		1,258
1922		120	1	496	319			31	5,227	9,843	35,692		51,729	1,188	9		1,197
1923		74	1	494	346			34	5,402	10,867	39,147		56,365	1,054	9		1,063
1924		76	2	497	406			39	5,657	13,369	45,355		65,401	1,122	11		1,133
1925		158	3	459	541			61	5,960	16,650	52,448		76,280	1,226	12		1,238
1926		150	2	478	653			41	5,844	23,314	64,311		94,793	1,188	9		1,197
1927		112	2	504	663			47	5,342	26,368	77,018		110,056	1,267	8		1,275
1928		94	1	512	630			46	5,492	30,773	[G]84,745		122,293	1,842	8		1,850
1929		93		535	704			45	4,988	34,758	[G]99,507		140,630	1,868	20		1,888
1930		157	[D]	523	1,182			59	4,904	41,624	[G]125,555		174,004	1,996	16		2,012
1931		134	[F]	520	1,606			124	4,662	49,127	162,842		219,015	2,038	[F]		2,038
1932		126	[F]	530	1,608			208	4,116	53,815	154,367		214,770	1,895	[F]		1,895
1933	11	122	[F]	562	1,665			204	4,072	54,020	154,840		215,496	1,663	[F]		1,663
1934	10	178	[F]	557	2,187			151	3,913	62,063	174,318		243,377	1,546	[F]		1,546
1935	41	133	[F]	541	2,996	44		119	3,812	61,310	182,386	2	251,384	1,301	[F]	4	1,305
1936	273	127	[F]	503	3,115	50		123	3,789	63,659	186,206	1	257,846	1,278	[F]	4	1,282
1937	619	123	[F]	502	3,176	221	16	110	3,716	52,452	193,241	4	254,180	1,196	[F]	22	1,218
1938	752	130	[F]	513	3,861	383	288	101	3,763	48,487	204,956	9	263,243	1,581	[F]	27	1,608
1939	934	120	[F]	500	4,487	693	1,103	91	3,898	45,483	216,866	10	274,185	4,666	[F]	27	4,693
1940[H]	1,497	119	[R]125	496	4,544	719	1,755	57	3,891	42,182	218,600	10	273,995	6,053	[F]	27	6,080
1941[H]	1,381	109	[R]300	479	4,438	692	2,474	46	3,319	38,147	238,150	10	289,545	7,659	[F]	27	7,686
1942[K]	1,450	120	500	500	4,200	[F]6,200	[F]5,500	[F]80	[N]3,400	[F]38,000	[N]212,000	10	271,960	[F]8,190	[F]	25	8,215
1943[K]	1,100	125	600	600	4,100	[F]6,800	[F]8,200	[F]60	3,500	[F]36,000	240,000	10	301,095	[F]8,994	[F]	25	9,019
1944[K]	[F]765	125	670	500	4,000	9,758	[F]8,300	[F]35	[F]2,700	20,000	275,000	50	321,903	[F]9,125	[F]	25	9,150
1945[K]	750	125	500	500	3,950	7,350	7,500	35	3,000	33,000	300,000	75	356,785	9,500	[F]	25	9,525
Total	9,583	3,161	2,715	13,743	71,045	32,910	35,136	3,023	278,714	1,079,140	5,670,539	191	7,199,900	87,830	143	238	88,211

[A] Separation of Burma and India prior to 1935 not available from U. S. Bureau of Mines data here used. Data by L. Dudley Stamp in "Petroleum Development and Technology, 1933," and in A.I.M.E. "Transactions" indicate cumulatives through 1934 as follows, Burma 184,528, India 20,756. [B] Includes fields in Russian Asia other than Sakhalin. [C] Exclusive of U.S.S.R. fields in Asia, other than Sakhalin, which are included with U.S.S.R. in Europe. [D] Less than 1000 barrels. [E] Approximate production. [F] No more data available. [G] Year Ended September 30. [H] All figures for 1940 and 1941, except as footnoted, from U.S.B. of M.'s "International Petroleum Trade," March 31, 1942. [I] Beginning of production in Brunei. [J] France's earlier production credited to Germany. [K] 1942, 1943, 1944, and 1945 estimated by The Oil Weekly, except as footnoted. [L] Government sources. [M] Revised B. of M. figure. [N] A.I.M.E. Transactions, 1943. [P] P.I.W.C. report. [R] Oil Weekly estimate.

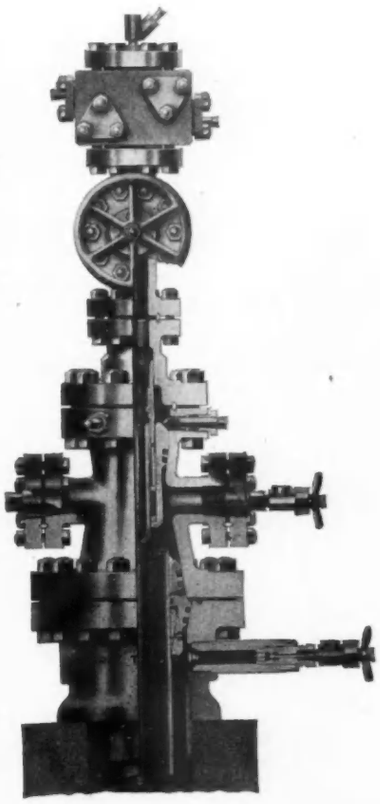
World Crude Oil Production, by Countries, by Years — (Continued)

(Complete production history of world, in thousands of barrels of 42 U. S. Gallons. *Sources: Mineral Resources and Minerals Yearbook*, except as otherwise indicated)

	ASIA																
YEAR	Bahrein Island	[A]Burma	India, British	Iran (Persia)	Iraq	Japan (Incl Taiwan)	Netherland India	Sakhalin	Br.Borneo (Sarawak & Brunei)	Saudi Arabia	Other Asia	[C]Total Asia	Australia-New Zeal.	Rest of World	World Total	Percent Pro. by U.S.
1857															2	
1858															4	
1859															6	31
1860															509	98
1861															2,131	99
1862															3,092	99
1863															2,763	94
1864															2,304	92
1865															2,716	92
1866															3,899	92
1867															3,709	90
1868															3,990	91
1869															4,696	90
1870															5,799	91
1871															5,730	91
1872															6,877	92
1873															10,838	91
1874															11,933	92
1875						5						5			9,977	88
1876						7						7			11,051	83
1877						10						10			15,754	85
1878						18						18			18,417	84
1879						23						23			23,601	84
1880						26						26			30,018	88
1881						17						17			31,993	86
1882						15						15			35,704	85
1883						20						20			30,255	78
1884						28						28			35,969	67
1885						30						30			36,765	59
1886						38						38			47,243	59
1887						29						29			47,807	59
1888						37						37			52,165	53
1889			94			53						147			61,507	57
1890			118			52						170			76,633	60
1891			190			53						243			91,100	60
1892			242			69						311			88,739	57
1893			299			106	600					1,005			92,038	53
1894			327			173	688					1,188			89,337	55
1895			372			170	1,216					1,758			103,692	51
1896			430			237	1,427					2,094			114,199	53
1897			546			262	2,552					3,360			121,993	50
1898			542			319	2,964					3,825			124,979	44
1899			941			539	1,796					3,276			131,147	44
1900			1,079			871	2,253					4,203			149,137	43
1901			1,431			1,117	4,014					6,562		20	167,440	41
1902			1,617			996	2,430					5,043		26	181,809	49
1903			2,510			1,209	5,770					9,489		36	194,879	52
1904			3,385			1,219	6,508					11,112		40	217,948	54
1905			4,137			1,347	7,850					13,334		30	215,091	63
1906			4,016			1,564	8,181					13,761		30	213,263	59
1907			4,344			1,718	9,983					16,045		30	263,957	63
1908			5,047			1,871	10,283					17,201		30	285,287	63
1909			6,677			1,887	11,042					19,606		20	298,709	61
1910			6,138			1,829	11,031					18,998		20	327,763	64
1911			6,451			1,737	12,173					20,361		20	344,361	64
1912			7,117			1,659	10,846					19,622		20	352,443	63
1913			7,930	1,857		1,940	11,172		141			23,040		20	385,345	64
1914			7,410	2,910		2,636	11,422		318			24,696		20	407,544	65
1915			8,202	3,616		2,928	11,920		392			27,058		10	432,033	65
1916			8,491	4,477		2,963	12,547		629			29,107		25	457,500	66
1917			8,079	7,147		2,861	13,180		542			31,809		29	502,891	67
1918			8,188	8,623		2,441	12,778		504			32,534		25	503,515	71
1919			8,736	10,139		2,238	15,508		596			37,217		20	555,875	68
1920			8,375	12,230		2,221	17,529		1,020			41,375		20	688,884	64
1921			8,734	16,673		2,233	16,958	2	1,411			46,011		20	766,002	62
1922			8,529	22,247		2,055	17,066	7	2,849			52,753		22	858,898	65
1923			8,406	25,230		1,804	19,870	9	3,940			59,259		24	1,015,736	72
1924			8,416	32,373		1,814	20,473	80	4,163			67,319		24	1,014,318	70
1925			8,274	35,038		1,915	21,422	87	4,257			70,993		23	1,068,933	71
1926			8,011	35,842		1,785	21,243	181	4,942			72,004		17	1,096,823	70
1927			8,032	39,688	338	1,789	27,459	440	4,943			82,689		13	1,262,582	71
1928			8,741	43,461	713	1,944	32,118	677	[I]5,223			92,877		15	1,324,774	68
1929			8,747	42,145	798	2,023	39,279	[G]1,134	5,290			99,416		38	1,485,867	68
1930			8,292	45,828	913	1,950	41,729	[G]1,805	4,907			105,424		40	1,410,037	64
1931			8,200	44,376	830	2,050	35,539	2,734	3,854			97,583		54	1,372,532	62
1932			8,817	49,471	836	1,630	39,001	2,631	3,796			106,182		62	1,309,677	60
1933	31		8,743	54,392	917	1,455	42,606	2,338	4,490			114,972		71	1,442,146	63
1934	285		10,503	57,851	7,689	1,834	46,925	2,881	5,140			133,108		96	1,522,281	60
1935	1,265	7,181	2,038	57,273	27,408	2,249	47,171	2,545	5,546			152,676	5	4	1,654,488	60
1936	4,645	7,588	1,978	62,718	30,406	2,440	50,025	3,212	5,209	20		168,241	5	4	1,791,540	61
1937	7,762	7,848	2,162	77,804	31,836	2,488	56,724	3,656	6,009	65		196,354	4	4	2,039,231	63
1938	8,298	7,538	2,488	78,372	32,643	2,511	57,318	[E]3,821	6,913	495		200,397	4	4	1,988,041	61
1939	7,589	7,873	2,327	78,151	30,791	2,654	62,087	[E]4,000	7,097	3,934		206,503	3	4	2,085,444	60.7
1940[H]	7,074	7,731	2,250	66,900	24,225	2,639	62,011	[E]4,000	7,047	5,365		189,242	3	14	2,142,198	63.2
1941[H]	6,794	7,762	2,270	[N]78,000	12,650	[N]3,300	[N]62,120	[E]4,000	6,864	5,871		189,631	3	14	2,247,549	62.4
1942[K]	[N]7,800	[F]1,150	[N]2,500	[N]76,000	[F]17,442	[N]3,400	[N]9,000	5,000	[N]1,500	[F]4,530		128,322	5	15	2,060,353	67.3
1943[K]	8,000	[F]750	3,000	78,000	[F]26,266	3,500	40,000	5,000	12,000	[F]5,475	100	182,091	25	25	2,300,579	65.4
1944[K]	6,714	[F]750	3,000	102,000	27,958	3,000	50,000	5,000	15,000	7,763	150	221,335	25	25	2,621,934	64.0
1945[K]	7,304	750	3,000	122,000	28,100	2,500	35,000	4,800	12,000	20,800	150	236,404	25	25	2,768,885	61.8
Total	73,561	[A]327,840		1,472,832	302,759	98,550	1,172,807	60,040	148,532	54,318	400	3,711,639	107	1,148	49,389,603	63.8

[A] Separation of Burma and India prior to 1935 not available from U. S. Bureau of Mines data here used. Data by L. Dudley Stamp in "Petroleum Development and Technology, 1933," and in A.I.M.E. "Transactions" indicate cumulatives through 1934 as follows, Burma 184,523, India 20,756. [B] Includes fields in Russian Asia other than Sakhalin. [C] Exclusive of U.S.S.R. fields in Asia, other than Sakhalin, which are included with U.S.S.R. in Europe. [D] Less than 1000 barrels. [E] Approximate production. [F] No more data available. [G] Year Ended September 30. [H] All figures for 1940 and 1941, except as footnoted, from U.S.B. of M.'s "International Petroleum Trade," March 31, 1942. [I] Beginning of production in Brunei. [J] France's earlier production credited to Germany. [K] 1942, 1943, 1944, and 1945 estimated by The Oil Weekly, except as footnoted. [L] Government sources. [M] Revised B. of M. figure. [N] A.I.M.E. Transactions, 1943. [P] P.I.W.C. report. [R] Oil Weekly estimate.

SIMPLICITY is the first requisite of well control



The better design accomplishes its purpose with fewer, rather than more parts

Because simplicity, the fewest number of the highest quality parts, is the first requisite of well control, this means taking from, rather than adding to equipment. The organization which actually succeeds in finding a solution to the problem of well control must concentrate its efforts on the development of control, rather than on the sale of equipment. As it sells less equipment while performing the job with safety and efficiency, its contributions and service are of greater value.

For example, certain packers, equipment used for control, actually result in well control *without control* until coordinated with other control equipment to permit their installation with control. Blowout preventers, master valves, tubing and casing hangers, seals, etc., essential equipment for use in well control, result in well control *without control* until coordinated to permit their assembly and use with control throughout their entire period of usefulness, and their disassembly with control upon completion of their operating function.

Only by such coordination can simplification, the fewest number of the highest quality parts, become a reality. Only through this process of elimination, the ability to assemble and disassemble the equipment with control, can a solution to the providing of well control with control be found. There is no gap in control when you use Gray Systems of Well Control.

The whole is greater than any of its parts. The better design accomplishes its purpose with fewer, rather than more parts.

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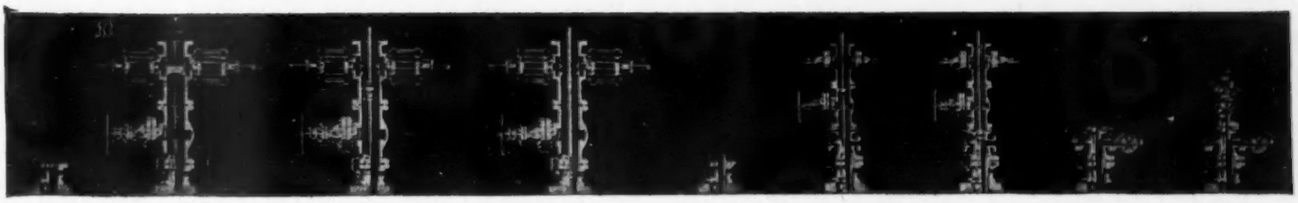


Casing Head Attached | Drilling | Running Casing | Casing Landed | Drilling Control Equipment Removed | Drilling-in and Running Tubing | Tubing Landed | Control Equipment Removed | Manifold Attached

U.S. Production of Far Below Record

Output may decline 750,000 barrels from wartime high of about 5 million daily

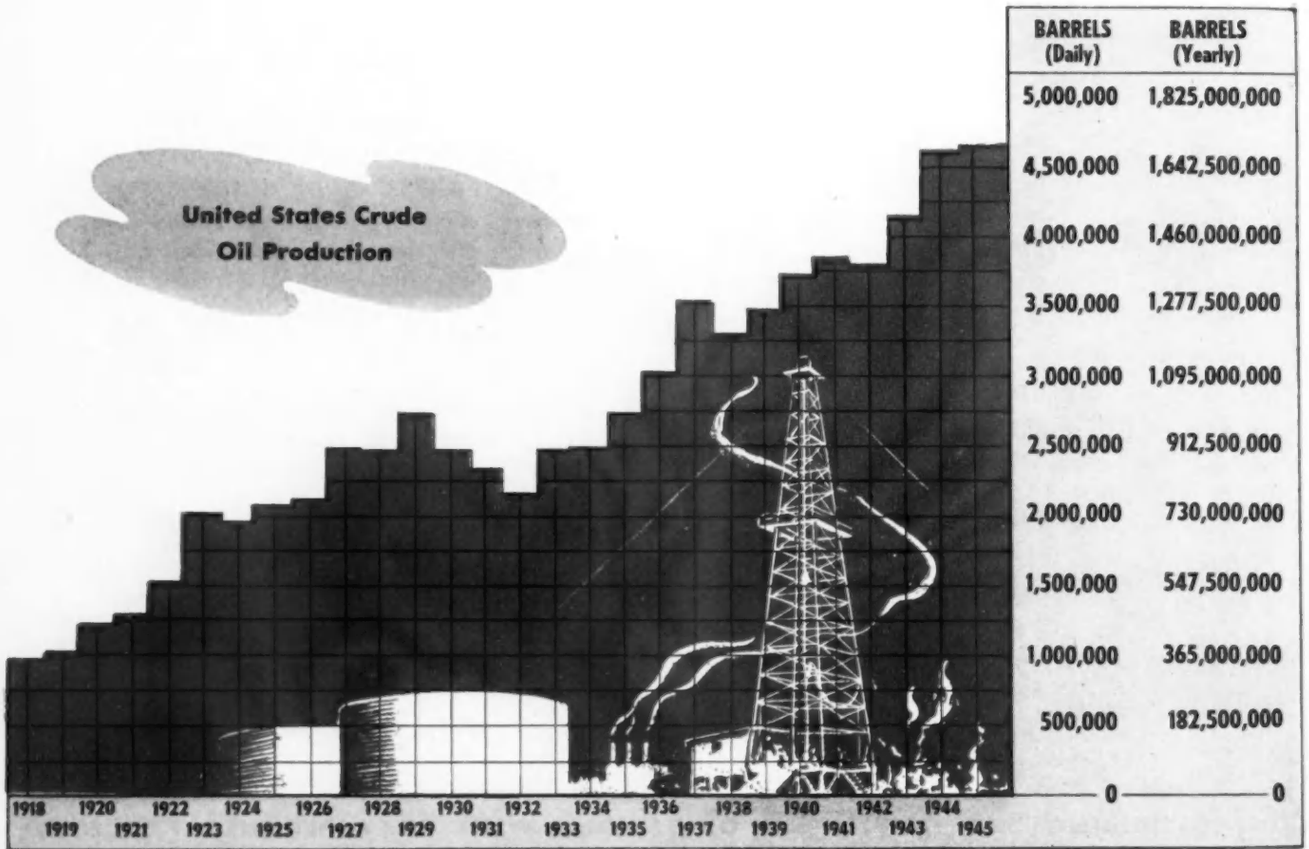
FOR the third consecutive year United States crude production registered a new high in 1945 when with a daily average of 4,686,000 barrels, the total annual recovery reached 1,710,275,000 barrels. This was 32 million barrels in excess of the 1944 production mark of 1,677,753,000 barrels and reflects the tremendous effort put forth prior to V-J day by the oil industry, when military needs were continuously mounting and operators throughout the nation were striving for every possible barrel of production.

War definitely was the factor that spurred production, and this caused production to follow an uneven pattern during the year. An all-time peak was registered in July, 1945, when the daily average reached 4,891,000 barrels. This represents an almost continuing trend upward from the January average of 4,748,000 barrels daily. The Japanese capitulated in August, 1945, and that month shows a decided drop from the July peak. Daily average was 4,891,000 barrels for July compared with 4,870,000 for August.

The downward trend continued for the next two months also, September showing 4,413,000 barrels daily and October 4,277,000 barrels, but there was something of a comeback during the last two months of the year.

December's daily average production of 4,494,100 barrels gives promise of being exceeded during the early months of the current year. January for instance, has shown continuation of the upward trend, the average for the last two weeks being 4,589,085 and 4,620,135 barrels daily, respectively, for weeks ended January 19 and January 26. Some observers believe this level will continue at least through February although beyond that point, due to the varied and unusual factors that have appeared, they anticipate a decrease.

Various estimates have been made of the probable output of crude required



(All Figures in Barrels)

YEAR	Yearly Total	Daily Average	YEAR	Yearly Total	Daily Average	YEAR	Yearly Total	Daily Average
1918	355,928,000	975,000	1927	901,129,000	2,469,000	1936	1,099,687,000	3,013,000
1919	378,367,000	1,037,000	1928	901,474,000	2,469,000	1937	1,279,160,000	3,505,000
1920	442,929,000	1,213,000	1929	1,007,323,000	2,760,000	1938	1,214,355,000	3,327,000
1921	472,183,000	1,294,000	1930	898,011,000	2,460,000	1939	1,264,962,000	3,466,000
1922	557,531,000	1,528,000	1931	851,081,000	2,332,000	1940	1,353,214,000	3,707,000
1923	732,407,000	2,007,000	1932	785,159,000	2,151,000	1941	1,402,228,000	3,842,000
1924	713,940,000	1,956,000	1933	905,656,000	2,481,000	1942	1,386,645,000	3,799,000
1925	763,743,000	2,092,000	1934	908,065,000	2,488,000	1943	1,503,176,000	4,118,000
1926	770,874,000	2,112,000	1935	996,596,000	2,730,000	1944	1,677,753,000	4,584,000
						1945	1,710,275,000	4,686,000

Source: U. S. Bureau of Mines, except for latest year, which has been calculated with aid of Bureau statistics for first 10 months and American Petroleum Institute weekly reports for last two months.

Crude Due to Drop Peak Hit in 1945

to balance demands in 1946. As is to be expected, all foresee a substantial decrease from the 1945 peak. An average of the various estimates would be around 4,200,000 barrels per day, and since most economists expect crude requirements to be on the up-grade by the end of the year this would mean a low of less than this amount. The difference between the production peak of 4,890,000 barrels daily in July, 1945, and the low point of 1946, therefore, will be something like 800,000 barrels.

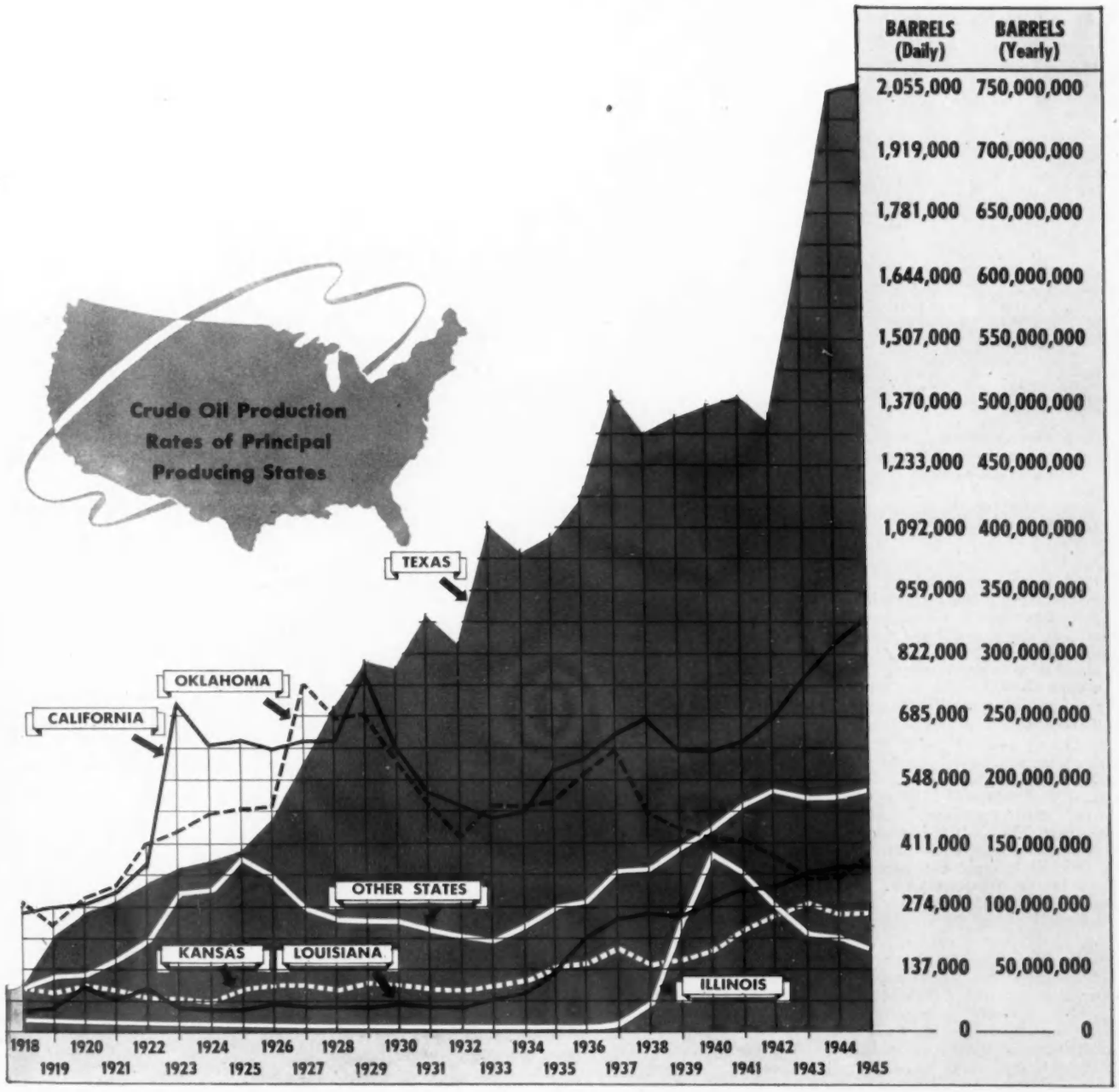
This is a decrease of great magnitude. It will create difficult problems, especially since the industry is so accustomed to steadily expanding rates. However, some comfort can be gained from the fact that such a volume of crude production would be above the 1941 prewar peak.

Decreased output will be concentrated to a large extent on areas that were called upon to supply so much of the additional oil, which means the greatest shock will be felt in Texas and California. Texas' producing rate of over 2 million barrels daily in 1945 may drop to 1½ million barrels or less in 1946. Meanwhile, California may decline close to 100,000 barrels per day.

Prewar production peak was December, 1941, when the daily average was 4,138,000 barrels or about 750,000 barrels less than the all-time peak set in August, 1945.

Only five months after the prewar peak was established, came the gloomy days of April, 1942, when United States wells produced only 3,502,000 barrels daily. This was the wartime low and was 1,389,000 barrels less than the peak reached in July, 1945, when production was at its all-time maximum.

Gains in production during 1945 over



U. S. Crude Oil Production, By States and Districts, December and Years, 1941, 1944 and 1945

From U. S. Bureau of Mines, except November and December, 1945, estimated from A. P. I. weekly reports, and breakdown of California, Louisiana and Texas by districts based on various sources.

(THOUSANDS OF BARRELS)

STATE OR DISTRICT	PRODUCTION IN DECEMBER							PRODUCTION DURING YEAR							Year's Prod. in 1945 as Percent of U.S. Total	Cumulative Prod. To End of 1945	
	Monthly Total in December				Daily Average for December			Year Total			Daily Average for Year					Thousands of Barrels	As Percent of U.S. Cum.
	1941	1944	1945	% Diff. '44-'45	1941	1944	1945	1941	1944	1945	1941	1944	1945	% Diff. '44-'45			
Alabama	.....	7	14	+100.0	.....	0.2	0.5	.....	43	169	.....	0.1	0.5	+400.0	0.01	299	0.00
Arkansas	2,304	2,478	2,360	— 4.8	74.3	79.9	76.1	26,327	29,418	28,600	72.1	80.4	78.3	— 2.6	1.67	644,990	2.05
*California	19,590	27,442	26,163	— 4.7	631.9	885.2	843.9	230,263	311,793	326,555	630.9	851.9	894.7	+ 5.0	19.09	6,971,203	22.14
San Joaquin Valley	8,102	13,488	12,386	— 8.2	261.3	435.1	399.5	93,811	147,493	161,083	257.0	403.0	441.3	+ 9.5	9.42	3,011,993	9.57
Coastal District	2,709	4,510	4,459	— 1.1	87.4	145.5	143.8	32,224	50,003	53,855	88.3	136.6	147.6	+ 8.4	3.15	758,706	2.41
Los Angeles Basin	8,779	9,444	9,318	— 1.3	283.2	304.6	300.6	104,228	114,297	111,617	285.6	312.3	305.8	— 2.3	6.52	3,238,143	10.28
Colorado	200	271	642	+136.9	6.5	8.8	20.7	2,150	2,944	4,895	5.9	8.0	13.4	+ 66.7	0.29	54,404	0.17
Florida	.....	1	2	+100.0	.....	0.1	0.1	.....	12	34	.....	0.1	0.1	— 75.0	.....	43	0.00
Illinois	12,192	6,349	6,369	+ 0.3	393.3	204.8	205.5	132,393	77,413	75,064	362.7	210.5	205.7	— 2.8	4.39	1,173,193	3.73
Indiana	615	421	414	— 1.7	19.8	13.6	13.3	7,411	5,118	4,859	20.3	14.0	13.3	— 3.6	0.28	160,524	0.51
Kansas	7,957	8,087	7,763	— 4.0	256.7	260.9	250.4	83,242	98,762	96,299	228.1	269.8	263.8	— 2.2	5.63	1,576,695	5.01
Kentucky	394	912	910	— 0.2	12.7	29.4	29.4	4,762	9,621	10,231	13.0	26.3	28.0	+ 6.6	0.60	204,192	0.65
*Louisiana	10,948	10,841	11,521	+ 6.3	353.2	349.7	371.6	115,908	129,207	130,806	317.6	353.0	358.4	+ 1.5	7.65	1,675,287	5.32
North Louisiana	2,238	1,871	2,368	+ 26.6	72.2	60.4	76.4	24,991	24,014	23,998	68.5	65.6	65.8	— 0.4	1.41	676,079	2.15
South Louisiana	8,710	8,970	9,153	+ 2.0	281.0	289.3	295.2	90,917	105,193	106,808	249.1	287.4	292.6	+ 1.8	6.24	1,031,177	3.27
Michigan	1,759	1,509	1,403	— 7.0	56.7	48.7	45.3	16,359	18,490	17,260	44.8	50.5	47.3	— 6.4	1.01	239,737	0.76
Mississippi	2,185	1,547	1,678	+ 8.5	70.5	49.9	54.1	15,327	16,337	18,862	42.0	44.6	51.7	+ 15.8	1.10	102,673	0.33
Missouri	4	3	4	+ 33.3	0.1	0.1	0.1	47	36	45	0.1	0.1	0.1	.....	.....	338	.....
Montana	683	705	629	— 7.8	22.0	22.7	20.3	7,526	8,627	8,270	20.6	23.6	22.7	— 3.9	0.48	123,905	0.39
Nebraska	169	30	23	— 23.3	5.5	1.0	0.7	1,898	417	306	5.2	1.1	0.8	— 27.2	0.02	4,771	0.02
New Mexico	3,508	3,213	3,031	— 5.7	113.2	103.7	97.8	39,569	39,555	37,216	108.4	108.1	102.0	— 5.6	2.18	461,539	1.46
New York	468	361	421	+ 16.6	15.1	11.6	13.6	5,185	4,697	4,715	14.2	12.8	12.9	+ 0.8	0.28	154,264	0.50
Ohio	324	218	258	+ 18.3	10.4	7.0	8.3	3,510	2,937	2,899	9.6	8.0	7.9	— 1.0	0.17	604,588	1.92
Oklahoma	13,310	11,016	12,036	+ 9.2	429.4	355.3	388.3	154,702	124,616	138,005	423.8	340.5	378.1	+ 11.0	8.07	5,513,643	17.51
Pennsylvania	1,527	1,014	1,089	+ 7.4	49.3	32.7	35.1	16,750	14,118	12,700	45.9	38.6	34.8	— 9.8	0.74	1,063,762	3.38
Tennessee	1	1	1	.....	0.0	0.0	0.0	12	12	12	0.0	0.1	0.0	—100.0	.....	458	.....
*Texas	47,436	65,840	59,517	— 9.6	1,530.2	2,123.9	1,919.3	505,572	748,122	753,760	1,385.1	2,044.0	2,065.1	+ 1.0	44.08	9,663,878	30.69
East Texas Field	11,945	11,495	9,526	— 17.1	385.3	370.8	307.3	132,915	134,939	129,097	364.2	368.7	353.7	— 4.1	7.55	2,236,183	7.10
Rest of Eastern Texas	2,711	4,391	4,117	— 6.2	87.5	141.7	132.8	29,574	49,955	49,659	81.0	136.5	136.0	— 0.4	2.90	719,305	2.28
North Texas	4,341	4,380	4,637	+ 5.9	140.0	141.3	149.6	48,396	53,460	53,776	132.6	146.1	147.4	+ 0.9	3.15	1,312,797	4.17
West Texas	9,364	14,617	14,132	— 3.3	302.1	471.5	465.5	93,404	158,881	172,303	255.9	434.1	472.0	+ 8.7	10.07	1,712,135	5.44
Texas Panhandle	2,868	2,762	2,511	— 9.1	92.5	89.1	81.0	29,070	34,629	31,890	79.6	94.6	87.4	— 7.6	1.87	538,790	1.71
Gulf Coast, Upper	9,399	17,142	14,558	— 26.1	303.2	553.0	469.6	99,187	194,328	189,956	271.7	530.9	520.4	— 1.0	11.11	2,059,485	6.54
South Texas	6,981	10,713	9,736	— 9.1	225.2	345.5	314.1	75,721	115,777	120,777	207.5	316.3	330.9	+ 4.6	7.06	1,141,920	3.63
Gulf Coast, Lower	3,932	7,641	.....	.....	126.8	246.5	.....	42,104	80,172	.....	115.4	219.0	.....	.....	.....	570,634	1.81
Southwest Texas	2,426	2,450	.....	.....	78.3	79.0	.....	26,200	28,371	.....	71.8	77.5	.....	.....	.....	328,073	2.00
South Central Texas	623	622	.....	.....	20.1	20.0	.....	7,417	7,234	.....	20.3	19.8	.....	.....	.....	243,213	0.77
Utah	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	0.1	.....	.....	.....	.....	205	0.00
West Virginia	302	219	244	+ 11.4	9.7	7.1	7.9	3,433	3,070	2,903	9.4	8.4	8.0	— 4.7	0.17	427,099	1.35
Wyoming	2,558	2,797	2,826	+ 1.0	82.5	90.2	91.2	29,878	32,388	35,810	81.9	88.5	98.1	+ 10.9	2.09	664,943	2.11
Undistributed	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300	0.00
Total United States	128,434	145,282	139,318	— 4.1	4,143.0	4,686.5	4,494.1	1,402,228	1,677,753	1,710,275	3,841.7	4,584.0	4,685.7	+ 2.2	100.00	31,486,933	100.00

* Data on California, Louisiana, and Texas by districts are from various sources and so do not agree exactly with state totals, which are on Bureau of Mines basis.

1944 were registered by ten of the 25 producing states, although some of the increases were but nominal. The nation's production was 2.2 percent greater than in 1944. Alabama's 169,000 barrels enabled it to take the percentage lead with a gain of 400 percent over the previous year, which constituted its first year of production.

Texas, again the leader in total production, accounted for 44 percent of the nation's oil production. The state's annual yield showed a bare 1 percent gain over 1944, totaling 753,760,000 barrels against 748,122,000 barrels. On a daily average basis, Texas' output in 1945 was 2,065,100 barrels compared with 2,044,000 in the previous year. Following the end of the war, the producing rate of Texas dropped to 1,919,900 barrels per day in December.

Louisiana went along at about the same pace, her totals being 130,806,000 for 1945 against 129,027,000 barrels for 1944, or a daily average of 358,400 compared with 353,000 barrels, which amounted to a 1.5 percent gain.

Oklahoma and California increases were more substantial. The West Coast state came through with a gain of 5 percent computed on these totals: 311,793,000 barrels in 1944, and 326,555,000 barrels in 1945. This output, which constituted a daily average of 894,700 barrels, enabled the territory to maintain its position as the second largest producing state. Oklahoma had a gain of 11 percent. It produced 138,005,000 barrels in 1945 compared with 124,616,000 for 1944, and thus took third place honors from Louisiana.

Colorado Gains

Colorado, paced by the spurt of activity in the Rangely field, racked up a percentage gain of 66.7 with its nearly 5 million barrels production compared with almost 3 million barrels in 1944. Wyoming's gain was nearly 11 percent, its 1945 production being 35,810,000 barrels against 32,388,000 in 1944.

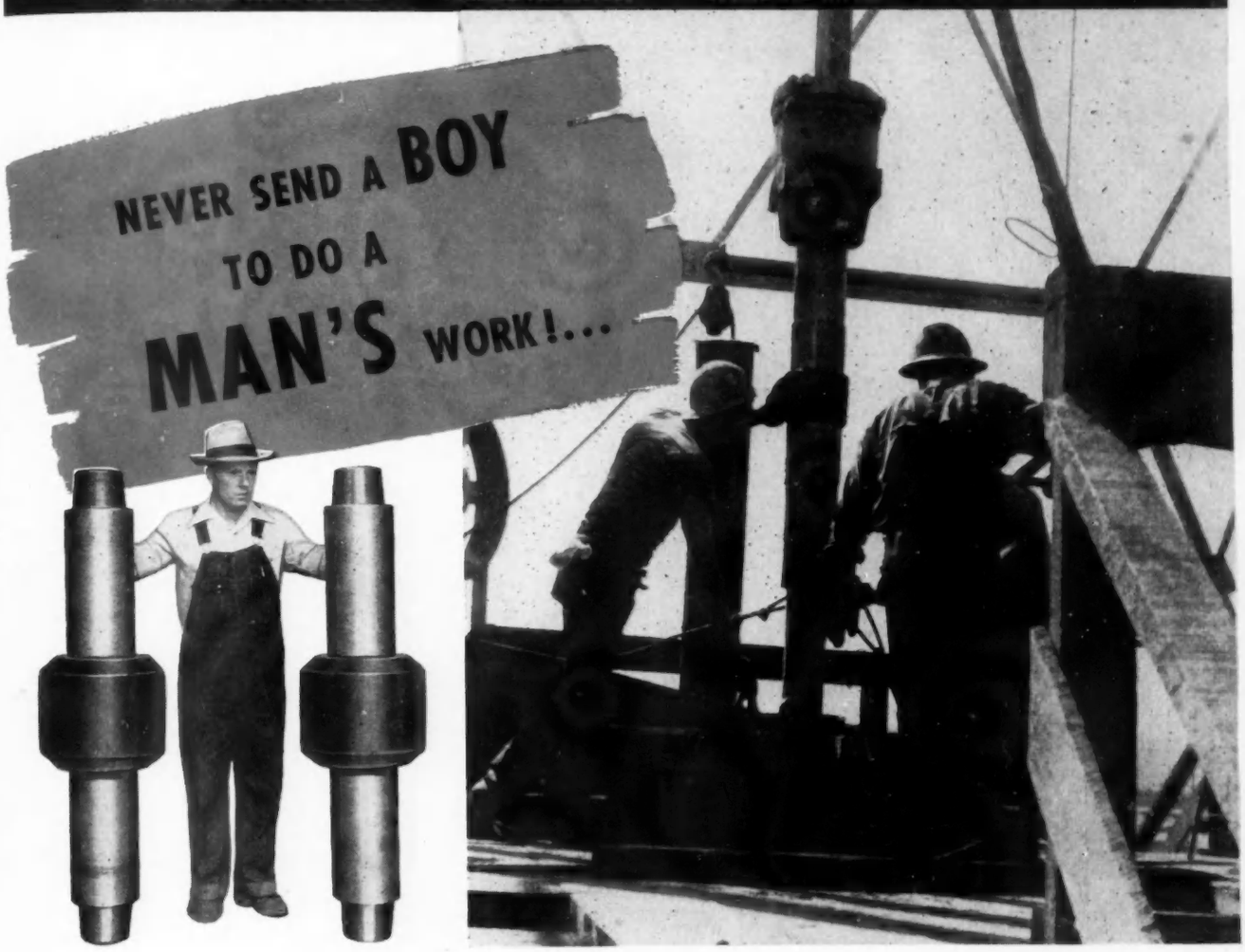
Mississippi also went along with the leaders, its 18,862,000 barrels in 1945 being nearly 16 percent ahead of 1944's 16,337,000 barrels.

In cumulative production since 1859 the nation's total was boosted at the end of 1945 to 31,486,933,000 barrels with the seven heaviest producing states in order of their cumulative totals as follows: Texas, 9,663,878,000 barrels; California, 6,971,203,000 barrels; Oklahoma, 5,513,643,000 barrels; Louisiana, 1,675,287,000 barrels; Kansas, 1,576,695 barrels; Illinois, 1,173,193,000 barrels; and Pennsylvania, 1,063,762,000 barrels.

Of the 31½ billion barrels produced during the history of the United States oil industry, 24 percent has been taken from the ground during the past five years, or roughly during the war years. During the past ten years 44 percent of all the oil produced by the United States has been recovered. These figures indicate the tremendous task ahead of the nation if it is to continue to fulfill consumptive requirements.

Production statistics by states for all years shown on pages 108-110. Production statistics by individual fields for 1945 and cumulative begin on page 204.

CASING PROTECTORS • STABILIZERS • PIPE WIPERS • WIRE LINE GUIDES • WIRE LINE WIPERS • KELLY WIPERS
KELLY SUB PROTECTORS • MUD GUNS • MUD GUN NOZZLES • SWIVEL BAIL BUMPERS • DEAD LINE STABILIZERS
TRAVELING BLOCK BUMPERS • TUBING PROTECTORS • SUCKER ROD WIPERS • TUBING WIPERS



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Give your Patterson-Ballagh man the casing size and Kelly size, and he will recommend the right size stabilizer to give you best results.

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United States Crude Oil Production, by States, by Years

Data in thousands of barrels; from *Mineral Resources and Minerals Yearbook*, except where otherwise indicated in footnotes.

YEAR	Arkansas	California	Colorado	Illinois	Indiana	Kansas	Kentucky	Louisiana	Michigan	Mississippi	Missouri	Montana	Nebraska	New Mexico
1859							[E]							
1860														
1861							[E]							
1862							[E]							
1863							[E]							
1864							[E]							
1865							[E]							
1866							[E]							
1867							[E]							
1868							[E]							
1869							[E]							
1870							[E]							
1871							[E]							
1872							[E]							
1873							[E]							
1874							[E]							
1875							[E]							
1876		12					[G E]							
1877		13					[G E]							
1878		15					[G E]							
1879		20					[G E]							
1880		40					[G E]							
1881		100					[G E]							
1882		129					[G E]							
1883		143					[G5]							
1884		262					[G4]							
1885		325					[G5]							
1886		377					[G5]							
1887		678	76				[G5]							
1888		690	298				[G5]							
1889		303	317	1	33	1	[G5]				[H]			
1890		307	369	1	64	1	[G6]				[H]			
1891		324	666	1	137	1	[G9]				[H]			
1892		385	824	1	698	5	[G7]				[H]			
1893		470	594	1	2,335	18	[G3]				[H]			
1894		706	516	[H]	3,689	40	[G2]				[H]			
1895		1,209	438	[H]	4,386	44	[G2]				[H]			
1896		1,253	361	[H]	4,681	114	[G2]				[H]			
1897		1,903	385	1	4,122	81	[G H]				[H]			
1898		2,257	444	[H]	3,731	72	[G6]				[H]			
1899		2,642	390	[H]	3,848	70	[G18]				[H]			
1900		4,325	317	[H]	4,874	75	[G62]		[J]		[J2]			
1901		8,787	461	[H]	5,757	179	[G137]		[J]		[J2]			
1902		13,984	397	[H]	7,481	332	[G185]	549	[J]		[J1]			
1903		24,382	484		9,186	932	[G554]	918	[J]		[J3]			
1904		29,649	501		11,339	4,251	[G998]	2,959	[J]		[J3]			
1905		33,428	376	181	10,964	[I3,750]	[G1,217]	8,910	[J]		[J3]			
1906		33,099	328	4,397	7,674	[I3,627]	[G1,214]	9,077	[J]		[J3]			
1907		39,748	332	24,282	5,128	2,410	[G821]	5,000	[J]		[J4]			
1908		44,855	380	33,686	3,283	1,801	728	5,789	[J]		[J15]			
1909		55,472	311	30,898	2,296	1,264	639	3,060	[J]		[J6]			
1910		73,011	240	33,143	2,160	1,128	469	6,841	[J]		[J4]			
1911		81,134	227	31,317	1,695	1,279	472	10,721	[J]		[J8]			
1912		87,269	206	28,602	970	1,593	484	9,263	[K]					
1913		97,788	189	23,894	956	2,375	525	12,499	[K]		[K]			[K]
1914		99,775	223	21,920	1,336	3,104	503	14,309	[K]		[K]			
1915		86,592	208	19,042	876	2,823	437	18,192	[K]		[K]			
1916		90,952	197	17,714	769	8,738	[L1,202]	15,248	[K]		[K]	45		
1917		93,878	121	15,777	760	36,536	[L3,088]	11,392	[K]			100		
1918		97,532	143	13,366	878	45,451	[L4,368]	16,043	[K]			69		
1919		101,183	121	11,960	972	33,048	9,278	17,188	[K]		[K]	90		[K]
1920	[K]	103,377	111	10,774	945	39,005	8,738	35,714			[K]	340		[K]
1921	10,473	112,600	108	10,043	1,158	36,456	9,013	27,103			[K]	1,509		[K]
1922	12,712	138,468	97	9,383	1,087	31,766	8,973	35,376			[K]	2,449		[K]
1923	36,610	262,876	86	8,707	1,043	28,250	8,069	24,919			[K]	2,782		[K]
1924	46,028	228,933	445	8,081	935	28,836	7,407	21,124				2,815		98
1925	77,398	232,492	1,226	7,863	829	38,357	6,759	20,272	4			4,091		1,060
1926	58,332	224,673	2,768	7,760	808	41,498	6,274	23,201	94			7,727		1,666
1927	40,005	231,196	2,831	6,994	852	41,069	6,719	22,818	439			5,058		1,226
1928	32,096	231,811	2,774	6,462	1,052	38,596	7,359	21,847	594			4,015		943
1929	24,917	292,534	2,358	6,319	981	42,813	7,775	20,554	4,528			3,980		1,830
1930	19,702	227,329	1,656	5,736	994	41,638	7,389	23,272	3,911			3,349		10,189
1931	14,791	188,830	1,545	5,039	840	37,018	6,456	21,804	3,789			2,830		15,227
1932	12,051	178,128	1,136	4,673	806	34,848	6,287	21,807	6,910		[K]	2,457		12,455
1933	11,686	172,010	919	4,244	737	41,976	4,608	25,168	7,942	[K]	[K]	2,273		14,116
1934	11,182	174,305	1,139	4,479	838	46,482	4,860	32,869	10,603	[K]	[K]	3,603		16,864
1935	11,008	207,832	1,560	4,322	777	54,843	5,258	50,330	15,776	[K]	[K]	4,603		20,483
1936	10,469	214,773	1,650	4,475	822	58,317	5,633	80,491	11,928		[K]	5,868		27,223
1937	11,764	238,521	1,605	7,499	844	70,761	5,484	90,924	16,628		[K]	5,805		38,854
1938	18,180	249,749	1,412	24,075	995	60,064	5,821	95,208	18,745		[K]	4,946		35,759
1939	21,238	224,354	1,404	94,912	1,711	60,703	5,621	93,646	23,462	107	40	5,960	2	37,637
1940	25,775	223,881	1,626	147,647	4,978	66,139	5,188	103,584	19,753	4,400	44	6,728	276	39,129
1941	26,327	230,263	2,150	132,393	7,411	83,242	4,762	115,908	16,359	15,327	47	7,526	1,898	39,569
1942	26,628	248,326	2,199	106,391	6,743	97,636	4,534	115,785	21,754	28,833	36	8,074	1,237	31,544
1943	27,600	284,188	2,320	82,260	5,283	106,178	7,883	123,592	20,768	18,807	36	7,916	635	38,896
1944	29,418	311,793	2,944	77,413	5,118	98,762	9,621	129,207	18,490	16,337	36	8,627	417	39,555
1945[P]	28,600	326,555	4,895	75,064	4,859	96,299	10,231	130,806	17,260	18,862	45	8,270	306	37,216
Total	644,990	6,971,203	54,404	1,173,193	160,524	1,576,695	204,192	1,675,287	239,737	102,673	338	123,905	4,771	461,539

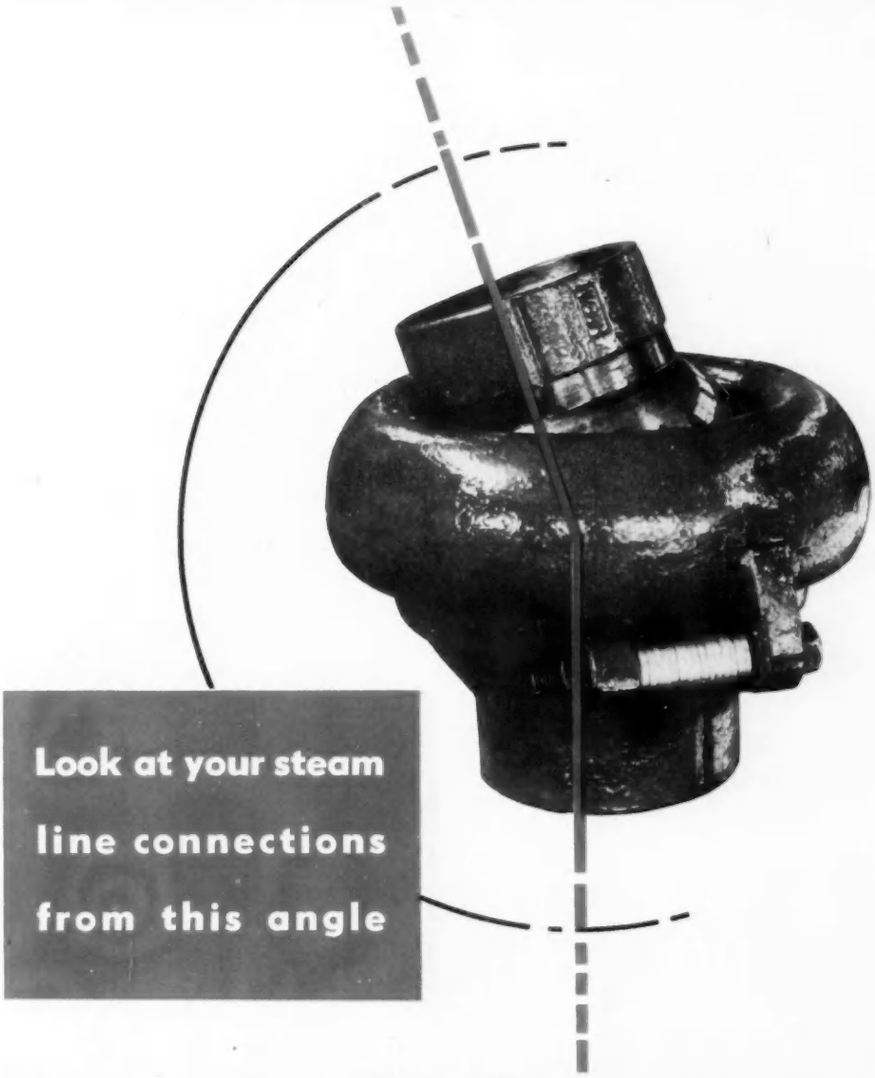
[A] Utah production estimated at 3,650 barrels in 1939; 3,126 barrels in 1940; and 189,726 barrels cumulative thorugh 1940.

[B] *Petroleum in the United States and Possessions*, by Arnold and Kemnitzer, shows for Alaska the following data: 1904-1919, estimated, 56,000 barrels; 1920, 11,000 barrels; 1921, 10,000 barrels; 1922-1928, estimated, 73,000 barrels; total, 1904-1928, 150,000 barrels.

[C] "Unclassified" includes 1912, Alaska and Michigan; 1913, Alaska, Michigan, Missouri and New Mexico; 1914-16, Alaska, Michigan and Missouri; 1917-18, Alaska and Michigan; 1919, Alaska, Michigan, Missouri and New Mexico; 1920, Alaska, Arkansas, Missouri, New Mexico and Utah; 1921-23, Alaska, Missouri and New Mexico; 1924-31, Alaska and Utah; 1932, Alaska, Missouri and Utah; 1933, Alaska, Mississippi, Missouri and Utah; 1934, Mississippi, Missouri and Utah; 1935, Mississippi, Missouri, Tennessee and Utah; 1936-40, Missouri, Tennessee and Utah; 1943, Florida 4 and Virginia 2; 1944, Alabama 43 and Florida 12; 1945, Alabama 169 and Florida 34.

[D] Pennsylvania and New York separated in years 1864-1881, by aid of *Petroleum in the United States and Possessions*, by Arnold and Kemnitzer.

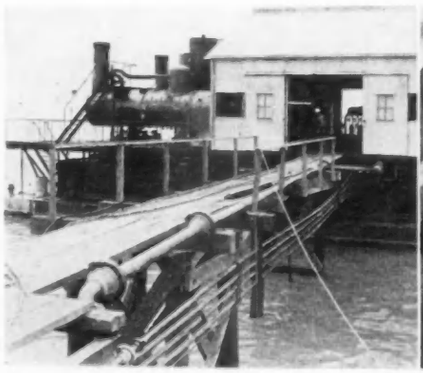
[E] *Petroleum in the United States and Possessions*, by Arnold and Kemnitzer, gives the following additional estimates which are not shown by the official *Mineral Resources*: Ohio, 1860-1875, 200,000 barrels; West Virginia, 1860-1875, 2,800,000 barrels; Kentucky, 1860-1882, 161,000 barrels.



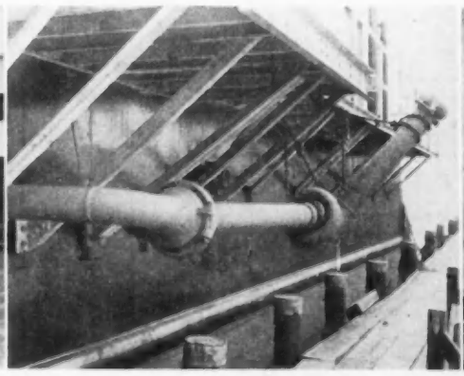
UNIBOLT "FLEXI-BALL" JOINTS

Here is a flexible joint for steam lines, misaligned connections, flexible manifolds, pressure-operated blowout preventer manifolds, rotary hose connections to standpipe and swivel, etc., whose life span is far greater than that of similar fittings. *Flexi-Ball Joints can be kept in service indefinitely and can always be dismantled with an end wrench because there are no threads between its component parts to gall and freeze.* Like other UNIBOLT Couplings, releasing a single bolt breaks the joint; tightening the bolt effects a seal. Complete interchangeability —another UNIBOLT characteristic—assures maximum economy due to replaceable parts. All Flexi-Ball Joints are designed for high pressure service and can, therefore, be switched at will from steam lines to mud lines.

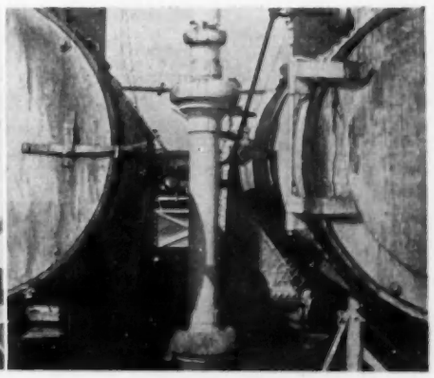
THORNHILL-CRAVER CO.
HOUSTON, TEXAS



6-inch Flexi-Ball Joints on steam line from boiler barge to drilling barge.



6-inch Flexi-Ball Joints on a boiler barge steam line.



6-inch Flexi-Ball Joints on a boiler "drop."

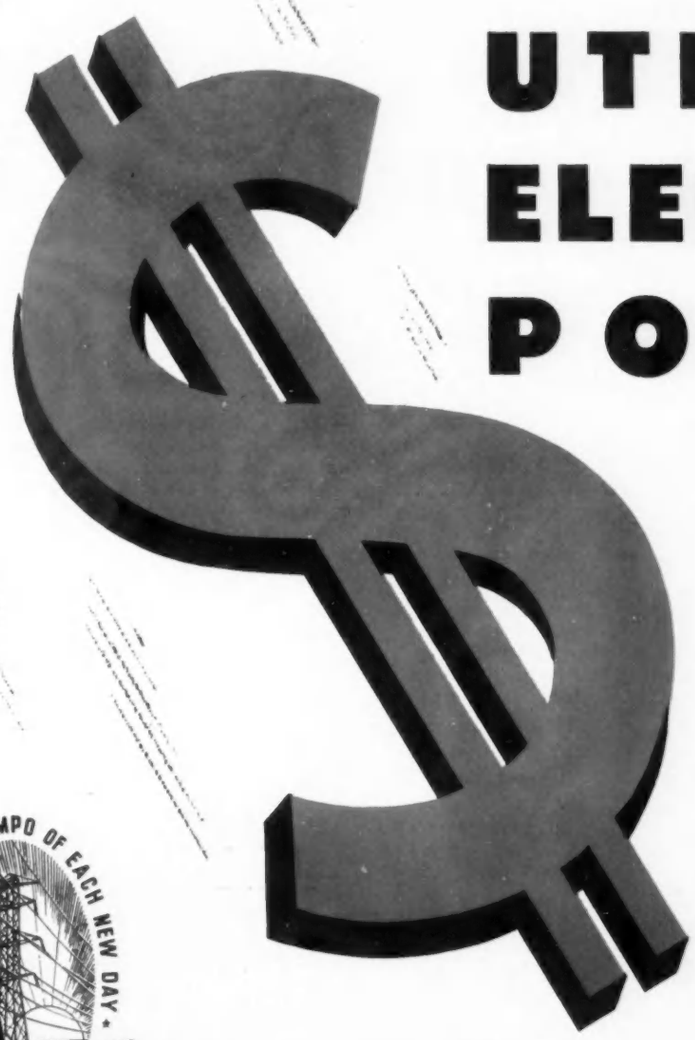
United States Crude Oil Production, by States, by Years—(Continued)

Data in thousands of barrels; from *Mineral Resources and Minerals Yearbook*, except where otherwise indicated in footnotes.

New York	Ohio	Oklahoma	Pennsylvania	Tennessee	Texas	[A] Utah	West Virginia	Wyoming	[B] Alaska	[C] Unclassified	Total United States	Total Value At Wells (Thousands of Dollars)	[O] Average Value Per Bbl.	YEAR
.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	$ 32	$20.00	1859
.....	[H]	.....	500	.....	.....	.....	[H]	.....	.....	.....	500	4,800	9.60	1860
.....	[H]	.....	2,114	.....	.....	.....	[H]	.....	.....	.....	2,114	1,036	.52	1861
.....	[H]	.....	3,057	.....	.....	.....	[H]	.....	.....	.....	3,057	3,210	1.05	1862
.....	[H]	.....	2,611	.....	.....	.....	[H]	.....	.....	.....	2,611	8,226	3.15	1863
[D F H]	[H]	.....	[D F] 2,116	.....	.....	.....	[H]	.....	.....	.....	2,116	20,897	8.15	1864
[D]100	[H]	.....	[D]2,398	.....	.....	.....	[H]	.....	.....	.....	2,498	16,460	6.59	1865
[D]144	[H]	.....	[D]3,454	.....	.....	.....	[H]	.....	.....	.....	3,598	13,455	3.75	1866
[D]134	[H]	.....	[D]3,213	.....	.....	.....	[H]	.....	.....	.....	3,347	8,067	2.40	1867
[D]146	[H]	.....	[D]3,500	.....	.....	.....	[H]	.....	.....	.....	3,646	13,217	3.62	1868
[D]169	[H]	.....	[D]4,046	.....	.....	.....	[H]	.....	.....	.....	4,215	23,730	5.60	1869
[D]211	[H]	.....	[D]5,050	.....	.....	.....	[H]	.....	.....	.....	5,261	20,504	3.90	1870
[D]208	[H]	.....	[D]4,997	.....	.....	.....	[H]	.....	.....	.....	5,205	22,591	4.40	1871
[D]252	[H]	.....	[D]6,041	.....	.....	.....	[H]	.....	.....	.....	6,293	21,440	3.75	1872
[D]396	[H]	.....	[D]9,498	.....	.....	.....	[H]	.....	.....	.....	9,894	18,100	1.80	1873
[D]437	[H]	.....	[D]10,490	.....	.....	.....	[H]	.....	.....	.....	10,927	12,648	1.15	1874
[D]352	[H]	.....	[D]8,436	.....	.....	.....	[H]	.....	.....	.....	8,788	7,368	.97	1875
[D]359	32	.....	[D]8,610	[G]	.....	.....	120	.....	.....	.....	9,133	22,983	2.52	1876
[D]525	30	.....	[D]12,610	[G]	.....	.....	172	.....	.....	.....	13,350	31,789	2.38	1877
[D]607	38	.....	[D]14,557	[G]	.....	.....	180	.....	.....	.....	15,397	18,045	1.17	1878
[D]787	29	.....	[D]18,898	[G]	.....	.....	180	.....	.....	.....	19,914	17,211	.86	1879
[D]1,041	39	.....	[D]24,987	[G]	.....	.....	179	.....	.....	.....	26,286	24,601	.94	1880
[D]1,095	34	.....	[D]26,281	[G]	.....	.....	151	.....	.....	.....	27,661	25,448	.92	1881
6,685	40	.....	23,368	[G]	.....	.....	128	.....	.....	.....	30,350	23,631	.78	1882
4,004	47	.....	19,125	[G]	.....	.....	126	.....	.....	.....	23,450	25,790	1.10	1883
3,231	90	.....	20,541	[G]	.....	.....	90	.....	.....	.....	24,218	20,596	.85	1884
2,658	662	.....	18,118	[G]	.....	.....	91	.....	.....	.....	21,859	19,198	.88	1885
2,151	1,783	.....	23,647	[G]	.....	.....	102	.....	.....	.....	28,065	19,996	.71	1886
2,075	5,023	.....	20,281	[G]	.....	.....	145	.....	.....	.....	28,283	18,877	.67	1887
1,789	10,011	.....	14,700	[G]	.....	.....	119	.....	.....	.....	27,612	17,948	.65	1888
1,897	12,472	.....	19,591	[G]	[H]	.....	544	.....	.....	.....	35,164	26,963	.77	1889
1,658	16,125	.....	26,800	[G]	[H]	.....	493	.....	.....	.....	45,824	35,365	.77	1890
1,585	17,740	[H]	31,424	[G]	[H]	.....	2,406	.....	.....	.....	54,293	30,527	.56	1891
1,273	16,363	[H]	27,149	[G]	[H]	.....	3,810	.....	.....	.....	50,515	25,907	.51	1892
1,032	16,249	[H]	19,283	[G]	[H]	.....	8,446	.....	.....	.....	48,431	28,950	.60	1893
942	16,792	[H]	18,078	[G]	[H]	.....	8,577	2	.....	.....	49,344	35,522	.72	1894
913	19,545	[H]	18,231	[G]	[H]	.....	8,120	4	.....	.....	52,892	57,632	1.09	1895
1,205	23,941	[H]	19,379	[G]	1	.....	10,020	3	.....	.....	60,960	58,519	.96	1896
1,279	21,561	1	17,983	[G]	66	.....	13,090	4	.....	.....	60,476	40,874	.68	1897
1,205	18,739	.....	14,743	[G]	546	.....	13,615	6	.....	.....	55,364	44,193	.80	1898
1,321	21,142	.....	13,054	[G]	669	.....	13,911	6	.....	.....	57,071	64,604	1.13	1899
1,301	22,363	6	13,258	[G]	836	.....	16,196	6	.....	.....	63,621	75,989	1.19	1900
1,207	21,648	10	12,625	[G]	4,394	.....	14,177	5	.....	.....	69,389	66,417	.96	1901
1,120	21,014	37	12,064	[G]	18,084	.....	13,513	6	.....	.....	88,767	71,179	.80	1902
1,163	20,480	139	11,355	[G]	17,956	.....	12,900	9	.....	.....	100,461	94,694	.94	1903
1,113	18,877	1,367	11,126	[G]	22,241	.....	12,645	12	[N]	.....	117,081	101,175	.86	1904
1,118	16,347	[I]8,264	10,437	[G]	28,136	.....	11,578	8	.....	.....	134,717	84,157	.62	1905
1,243	14,788	[I]18,091	10,257	[G]	12,568	.....	10,121	7	.....	.....	126,494	92,445	.73	1906
1,212	12,207	43,524	10,000	[G]	12,323	[M]	9,095	[M]9	[N]	.....	166,095	120,107	.72	1907
1,160	10,859	45,799	9,424	.....	11,207	[M]	9,523	[M]18	.....	.....	178,527	129,079	.72	1908
1,135	10,633	47,859	9,299	.....	9,534	[M]	10,745	[M]20	.....	.....	183,171	128,329	.70	1909
1,054	9,916	52,029	8,795	.....	8,899	[M]	11,753	[M]115	.....	.....	209,557	127,900	.61	1910
953	8,817	56,069	8,248	.....	9,526	[M]	9,796	[M]187	[N]	.....	220,449	134,045	.61	1911
874	8,969	51,427	7,838	.....	11,735	[M]	12,129	[M]1,572	[K]	4	222,935	164,213	.74	1912
948	8,781	63,579	7,917	.....	15,010	[N]	11,567	2,407	[K]	11	248,446	237,121	.95	1913
939	8,536	73,632	8,170	.....	20,068	[N]	9,680	3,560	[K]	8	265,763	214,125	.81	1914
888	7,825	97,915	7,838	.....	24,943	[N]	9,265	4,246	[K]	14	281,104	179,463	.64	1915
874	7,744	107,072	7,593	[L]1	27,645	[N]	8,731	6,234	[K]	8	300,767	330,900	1.10	1916
880	7,751	107,508	7,733	[L]12	32,413	[N]	8,379	8,978	[K]	10	335,316	522,635	1.56	1917
809	7,285	103,347	7,408	[L]8	38,750	[N]	7,867	12,596	[K]	8	355,928	703,944	1.98	1918
851	7,736	86,911	8,137	15	79,366	[N]	8,327	13,172	[K]	12	378,367	760,266	2.01	1919
906	7,400	106,206	7,438	14	96,868	[K]	8,249	16,831	[K]	13	442,929	1,360,745	3.07	1920
988	7,335	114,634	7,418	12	106,166	.....	7,822	19,333	[K]	12	472,183	814,745	1.73	1921
1,000	6,781	149,571	7,425	10	118,684	.....	7,021	26,715	[K]	13	557,531	895,111	1.61	1922
1,250	7,085	160,929	7,609	8	131,023	.....	6,358	44,785	[K]	18	732,407	978,430	1.34	1923
1,440	6,811	173,538	7,486	10	134,522	[K]	5,920	39,498	[K]	13	713,940	1,022,683	1.43	1924
1,695	7,212	176,768	8,097	24	144,648	[K]	5,763	29,173	[K]	12	763,743	1,284,960	1.68	1925
1,956	7,272	179,195	8,961	43	166,916	[K]	5,946	25,776	[K]	8	770,874	1,447,760	1.88	1926
2,242	7,593	277,775	9,526	60	217,389	[K]	6,023	21,307	[K]	7	901,129	1,172,830	1.30	1927
2,603	7,015	249,857	9,956	46	257,320	[K]	5,661	21,461	[K]	6	901,474	1,054,880	1.17	1928
3,377	6,743	255,004	11,820	19	296,876	[K]	5,574	19,314	[K]	7	1,007,323	1,280,417	1.27	1929
3,647	6,486	216,486	12,803	21	290,457	[K]	5,071	17,868	[K]	7	898,011	1,070,200	1.19	1930
3,363	5,327	180,574	11,892	6	332,437	[K]	4,472	14,834	[K]	7	851,081	550,630	.65	1931
3,508	4,644	153,244	12,412	5	312,478	[K]	3,876	13,418	[K]	16	785,159	680,460	.87	1932
3,181	4,235	182,251	12,624	5	402,609	[K]	3,815	11,227	[K]	30	905,656	608,000	.67	1933
3,804	4,234	180,107	14,478	10	381,516	[K]	4,095	12,556	.....	41	908,065	904,825	1.00	1934
4,236	4,082	185,288	15,810	[K]	392,666	[K]	3,902	13,755	.....	65	996,596	961,440	.96	1935
4,663	3,847	206,555	17,070	[K]	427,411	[K]	3,847	14,582	.....	63	1,099,687	1,199,820	1.09	1936
5,478	3,559	228,839	19,189	[K]	510,318	[K]	3,845	19,166	.....	77	1,279,160	1,513,340	1.18	1937
5,045	3,298	174,994	17,426	[K]	475,850	[K]	3,684	19,022	.....	82	1,214,355	1,373,060	1.13	1938
5,098	3,156	159,913	17,382	50	483,528	4	3,580	21,454	.....	.....	1,264,962	1,294,470	1.02	1939
4,999	3,159	156,164	17,353	24	493,209	3	3,444	25,711	.....	.....	1,353,214	1,385,440	1.02	1940
5,185	3,510	154,702	16,750	12	505,572	4	3,433	29,878	.....	.....	1,402,228	1,602,000	1.14	1941
5,421	3,543	140,690	17,779	9	483,097	.....	3,574	32,812	.....	.....	1,386,645	1,643,470	1.19	1942
5,059	3,322	123,152	15,757	10	593,520	.....	3,349	33,077	.....	[C]6	1,503,614	1,803,811	1.20	1943
4,697	2,937	124,616	14,118	12	748,122	.....	3,070	32,388	.....	[C]55	1,677,753	2,046,859	1.22	1944
4,715	2,899	138,005	12,700	12	753,760	.....	2,903	35,810	.....	[C]203	1,710,275	2,086,535	1.22	.....[P]1945
154,264	604,588	5,513,643	1,063,762	458	9,663,878	11	427,099	644,943	.....	836	31,486,933	37,326,054	1.18	.....Tota

[F] New York included with Pennsylvania.
[G] Tennessee included with Kentucky, 1876-1907, inclusive.
[H] Less than 500 barrels.
[I] Figures for Oklahoma and Kansas for years 1905-1906 shown together by *Mineral Resources;* here divided by aid of *Petroleum in the United States and Possessions*, by Arnold and Kemnitzer.
[J] Michigan shown with Missouri in 1900-1911.
[K] Included under "Unclassified."
[L] Kentucky and Tennessee figures in years 1916-18 obtained with aid of *Mineral Resources* and *Petroleum in the United States and Possessions*, by Arnold and Kemnitzer.
[M] Insignificant production of Utah (mostly used as fuel) shown with Wyoming.
[N] Little production but no record available.
[O] Figures on average price per barrel for years 1859-1875 taken from *Petroleum in the United States and Possessions*, by Arnold and Kemnitzer: remainder from *Mineral Resources* and *Minerals Yearbook* except 1943, 1944, and 1945 estimated.
[P] Bureau of Mines figures for first 10 months; November and December estimated by THE OIL WEEKLY, with aid of weekly reports of American Petroleum Institute and other sources.

UTILITY ELECTRIC POWER



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Proved Petroleum Of U.S. at New

United States reserves estimated to have gained half billion barrels despite record production

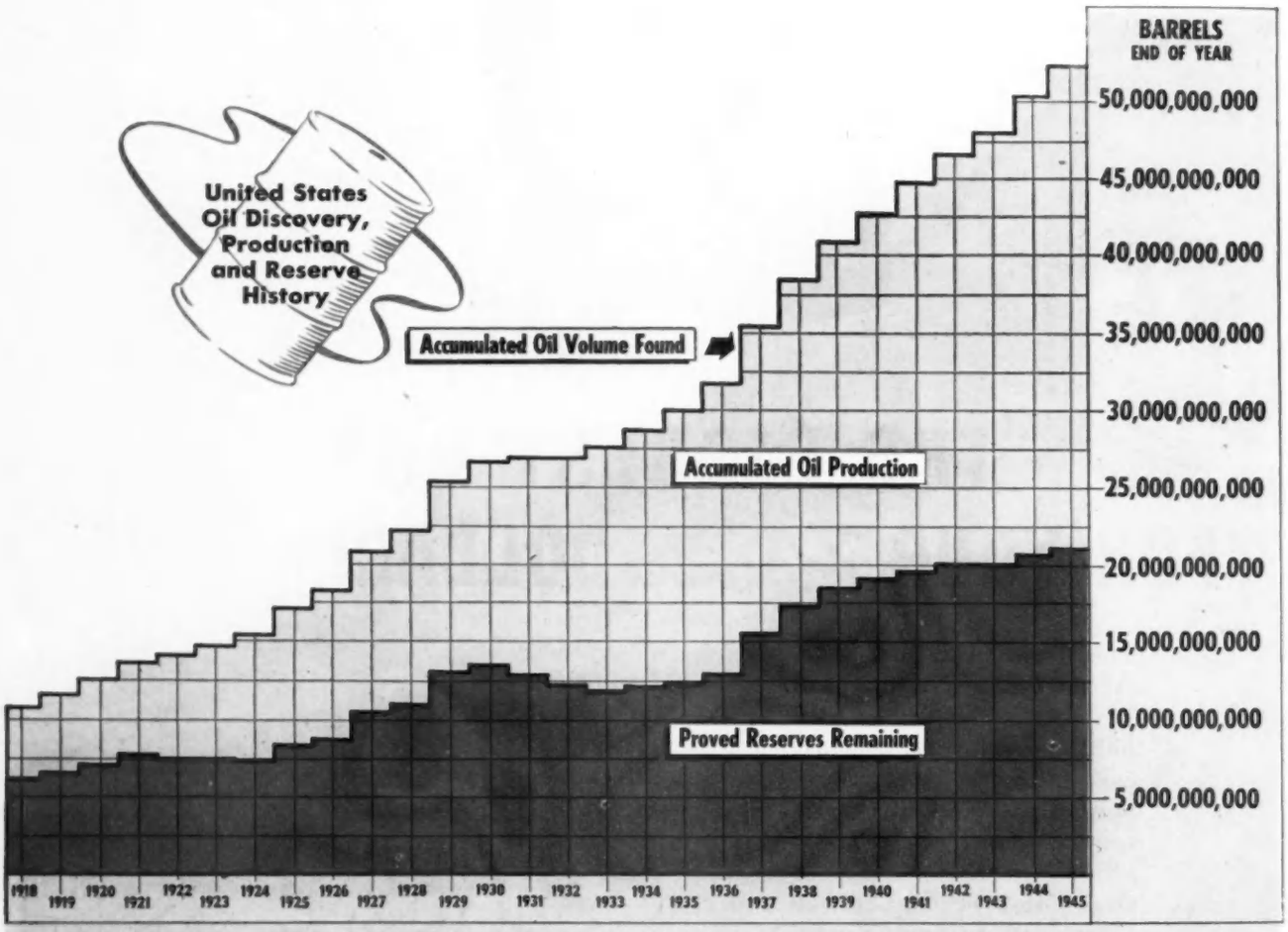
MORE new oil was found or proved to exist in the United States during 1945 than was produced. Nearly 2¼ billion barrels of new petroleum was added to the nation's oil supply, or nearly half a billion barrels more than the amount produced. It was the greatest discovery year since 1939. This was a remarkable achievement in view of the unusually high productive rate.

As a result the nation's proved petroleum reserves advanced to their highest level in history.

The proved recoverable reserves of crude oil in the United States as of January 1, 1946, are estimated by THE OIL WEEKLY to amount to 20,970,011,000 barrels, a gain of 516,880,000 barrels during the year. This was the difference between the volume produced and the quantity of new oil added during the year through discovery of new fields and further development of older fields. Production of crude oil was 1,710,275,000 barrels, while the quantity of new oil proved to be in existence amounted to 2,227,055,000 barrels.

This was 159½ million barrels more than the new oil discovered during 1944, and even further ahead of the previous four years.

As usual, under common reserve estimating procedure, most of the new oil was added through further development and extension of fields found prior to 1945. Further development of these older fields, and additional knowledge of factors affecting production and well performance, resulted in upward revision



End of Year	Accumulated Discoveries	Accumulated Production	Proved Reserves Remaining	End of Year	Accumulated Discoveries	Accumulated Production	Proved Reserves Remaining	End of Year	Accumulated Discoveries	Accumulated Production	Proved Reserves Remaining
1918	10,808,572,000	4,608,572,000	6,200,000,000	1927	20,841,675,000	10,341,675,000	10,500,000,000	1936	31,758,127,000	18,694,727,000	13,063,400,000
1919	11,686,939,000	4,986,939,000	6,700,000,000	1928	22,243,149,000	11,243,149,000	11,000,000,000	1937	35,481,155,000	19,973,887,000	15,507,268,000
1920	12,629,868,000	5,429,868,000	7,200,000,000	1929	25,450,472,000	12,250,472,000	13,200,000,000	1938	38,536,388,000	21,188,242,000	17,348,146,000
				1930	26,748,483,000	13,148,483,000	13,600,000,000	1939	40,936,216,000	22,453,204,000	18,483,012,000
1921	13,702,051,000	5,902,051,000	7,800,000,000					1940	42,830,933,000	23,806,418,000	19,024,515,000
1922	14,059,582,000	6,459,582,000	7,600,000,000	1931	26,999,564,000	13,999,564,000	13,000,000,000				
1923	14,791,989,000	7,191,989,000	7,600,000,000	1932	27,084,723,000	14,784,723,000	12,300,000,000	1941	44,797,942,000	25,208,646,000	19,589,296,000
1924	15,405,929,000	7,905,929,000	7,500,000,000	1933	27,690,379,000	15,690,379,000	12,000,000,000	1942	46,678,084,000	26,595,291,000	20,082,793,000
1925	17,169,672,000	8,669,672,000	8,500,000,000	1934	28,775,444,000	16,598,444,000	12,177,000,000	1943	48,162,619,000	28,098,467,000	20,064,152,000
				1935	29,995,940,000	17,595,040,000	12,400,000,000	1944	50,230,119,000	29,776,888,000	20,453,231,000
1926	18,240,546,000	9,440,546,000	8,800,000,000					1945	52,457,174,000	31,487,163,000	20,970,011,000

Source: American Petroleum Institute, except for latest year which has been estimated by The OIL WEEKLY.

Reserves High

of previously-made estimates by 1,801,-122,000 barrels.

New fields and new pay horizons in old fields discovered during the year are estimated to have added an additional 425,933,000 barrels of new oil. Many of these new fields and new producing horizons had only a very few wells at the close of the year, and estimates of proved reserves necessarily represent but a part of the petroleum which they may ultimately produce. Estimates on the quantity of oil such fields will produce will be revised as further development occurs.

Two measures most commonly used in attempting to determine oil finding efficiency are the quantity of oil found per dry hole drilled and the volume found per wildcat completed. In both of these categories, 1945 may be rated as fairly satisfactory.

The amount of new oil proved to exist during 1945 was equivalent to 308,200 barrels per dry hole completed. This was almost exactly the same volume found per dry hole in 1944, but was above the average of 289,794 barrels found per dry hole completion during the five preceding years. However, considerably more oil per dry hole was found in 1937 and 1938.

More new oil was found per wildcat completion in 1945 than in either 1944 or 1943. However, with these exceptions, the quantity was below figures for any other year since 1937.

Biggest gain in reserves took place in Texas. A total of 1,142,576,000 barrels of new petroleum supply was blocked out in this state during the year, which exceeded its record production by 388,816,-000 barrels. This boosted Texas' reserve to 11,764,296,000 barrels, a volume constituting 56 percent of the nation's total.

Comparison of Annual U. S. Oil Discovery and Producing Rates—1937-1945

YEAR	NEW OIL FOUND DURING YEAR: Through Revisions of Previous Estimates and Extensions to Known Fields	Through New Pools Discovered During Year	Total Through New Discoveries, Extensions, and Revisions	Production During Year	Excess (or Shortage) of Discoveries Over Crude Production
1937	2,792,790,000	928,742,000	3,721,532,000	1,277,664,000	+ 2,443,868,000
1938	2,243,571,000	810,493,000	3,054,064,000	1,312,186,000	+ 1,741,878,000
1939	2,058,455,000	340,667,000	2,399,122,000	1,264,256,000	+ 1,134,866,000
1940	1,607,012,000	286,228,000	1,893,350,000	1,851,847,000	+ 41,503,000
1941	1,538,989,000	429,974,000	1,968,963,000	1,404,182,000	+ 564,781,000
1942	1,618,925,000	260,051,000	1,878,976,000	1,385,479,000	+ 493,497,000
1943	1,202,368,000	282,418,000	1,484,786,000	1,503,427,000	+ 18,641,000
1944	1,556,192,000	511,308,000	2,067,500,000	1,678,421,000	+ 389,079,000
1945	1,801,122,000	425,933,000	2,227,055,000	1,710,275,000	+ 516,880,000

Source: American Petroleum Institute, except for latest year which is estimated by The OIL WEEKLY

Estimated Petroleum Reserves Proved Up in U. S. in 1945 and Indicated Reserves Held at End of Year, by States
(BARRELS)

STATE OR DISTRICT	[1]Proved Reserves January 1, 1945	[2]NEW RESERVES BLOCKED OUT IN 1945: Through Revisions of Previous Estimates and Extensions to Known Fields	Through New Fields Discovered During Year	Through New Pays Discovered During Year	Total New Reserves Blocked Out In 1945 (Sum of Preceding 3 Columns)	Production During 1945	Proved Reserves as of January 1, 1946
Alabama	317,000	500,000	1,300,000	.....	1,800,000	169,000	1,948,000
Arkansas	293,059,000	10,000,000	250,000	300,000	10,550,000	28,600,000	275,009,000
California	3,344,552,000	192,000,000	34,000,000	45,000,000	271,000,000	326,555,000	3,288,997,000
Colorado	88,823,000	153,600,000	.....	.....	153,600,000	4,895,000	237,528,000
Florida	[3]125,000	2,180,000	.....	.....	2,180,000	34,000	2,271,000
Illinois	320,714,000	105,000,000	7,000,000	1,200,000	113,200,000	75,064,000	358,850,000
Indiana	31,493,000	11,250,000	1,500,000	800,000	13,550,000	4,859,000	40,184,000
Kansas	601,751,000	10,000,000	24,000,000	1,000,000	35,000,000	96,299,000	540,452,000
Kentucky	41,080,000	10,500,000	3,600,000	80,000	14,180,000	10,231,000	45,029,000
Louisiana	1,573,387,000	102,680,000	51,420,000	56,841,000	210,941,000	130,806,000	1,653,522,000
North Louisiana	[2]285,919,000	44,329,000	3,876,000	360,000	48,565,000	23,998,000	310,486,000
South Louisiana	[2]1,287,468,000	58,351,000	47,544,000	56,481,000	162,376,000	106,808,000	1,343,036,000
Michigan	65,134,000	[4]36,240,000	3,000,000	1,000,000	40,240,000	17,260,000	88,114,000
Mississippi	209,011,000	16,000,000	8,100,000	1,300,000	25,400,000	18,862,000	215,549,000
Missouri	[3]135,000	25,000	.....	.....	25,000	45,000	115,000
Montana	111,650,000	7,200,000	320,000	8,100,000	15,620,000	8,270,000	119,000,000
Nebraska	581,000	.....	.....	.....	.....	306,000	275,000
New Mexico	562,564,000	40,423,000	6,980,000	6,320,000	53,723,000	37,216,000	579,071,000
New York	85,831,000	.....	.....	.....	.....	4,715,000	81,116,000
Ohio	31,624,000	1,100,000	350,000	.....	1,450,000	2,899,000	30,175,000
Oklahoma	970,262,000	65,000,000	30,000,000	4,000,000	99,000,000	138,005,000	931,257,000
Pennsylvania	123,138,000	.....	.....	.....	.....	12,700,000	110,438,000
Tennessee	[3]35,000	.....	.....	.....	.....	12,000	23,000
Texas	11,375,480,000	1,030,304,000	60,791,000	51,481,000	1,142,576,000	753,760,000	11,764,296,000
East Texas	[3]3,737,865,000	96,668,000	540,000	520,000	97,728,000	180,723,000	3,654,870,000
North Texas	[2]493,153,000	50,765,000	10,115,000	3,225,000	64,105,000	53,776,000	503,482,000
West Texas	[2]2,642,775,000	314,865,000	31,510,000	38,480,000	384,855,000	174,299,000	2,853,331,000
Texas Panhandle	[2]421,654,000	.....	.....	.....	.....	31,890,000	389,764,000
Gulf Coast, Upper	[2]2,575,728,000	276,382,000	8,324,000	6,724,000	291,430,000	190,618,000	2,676,540,000
South Texas	[1]1,504,305,000	291,624,000	10,302,000	2,532,000	304,458,000	122,454,000	1,686,309,000
West Virginia	40,755,000	1,000,000	.....	.....	1,000,000	2,903,000	38,852,000
Wyoming	581,730,000	6,120,000	15,000,000	900,000	22,020,000	35,810,000	567,940,000
Total United States	20,453,231,000	1,801,122,000	247,611,000	178,322,000	2,227,055,000	1,710,275,000	20,970,011,000

[1] From American Petroleum Institute, except as footnoted.
[2] Estimated by The OIL WEEKLY.
[3] OIL WEEKLY estimate, dividing A.P.I. figure of 295,000 barrels for "Miscellaneous" states of Florida, Missouri, Tennessee, Utah, and Virginia.
[4] Includes 13,500,000 by actual development and extensions in 1945; 22,740,000 revisions in estimates of older fields on basis of actual performance (includes 17,240,000 increase for Reid City field)

Texas found 51 percent of all the new United States oil proved to exist during the year.

West Texas, South Texas (including the Lower Gulf Coast), Upper Gulf Coast were the principal Texas areas in which new oil was found. Almost exactly twice as much oil is estimated to have been found as produced in West Texas. The area is credited with having had 384¼ million barrels of new oil discovered, and to have increased its remaining reserves to more than 2¾ billion barrels. A total of 304½ million barrels was found in South Texas, 2½ times its production. The Upper Gulf Coast's new oil totaled just less than 300 million, or 100 million more than 1945 production.

The biggest excess of production over newly discovered volumes in any Texas area occurred in East Texas, where less than a 100 million barrels were found and production totaled 180 million barrels. East Texas, however, is still the states' biggest reserve area, having over 3½ billion barrels. Much of this is in the East Texas field.

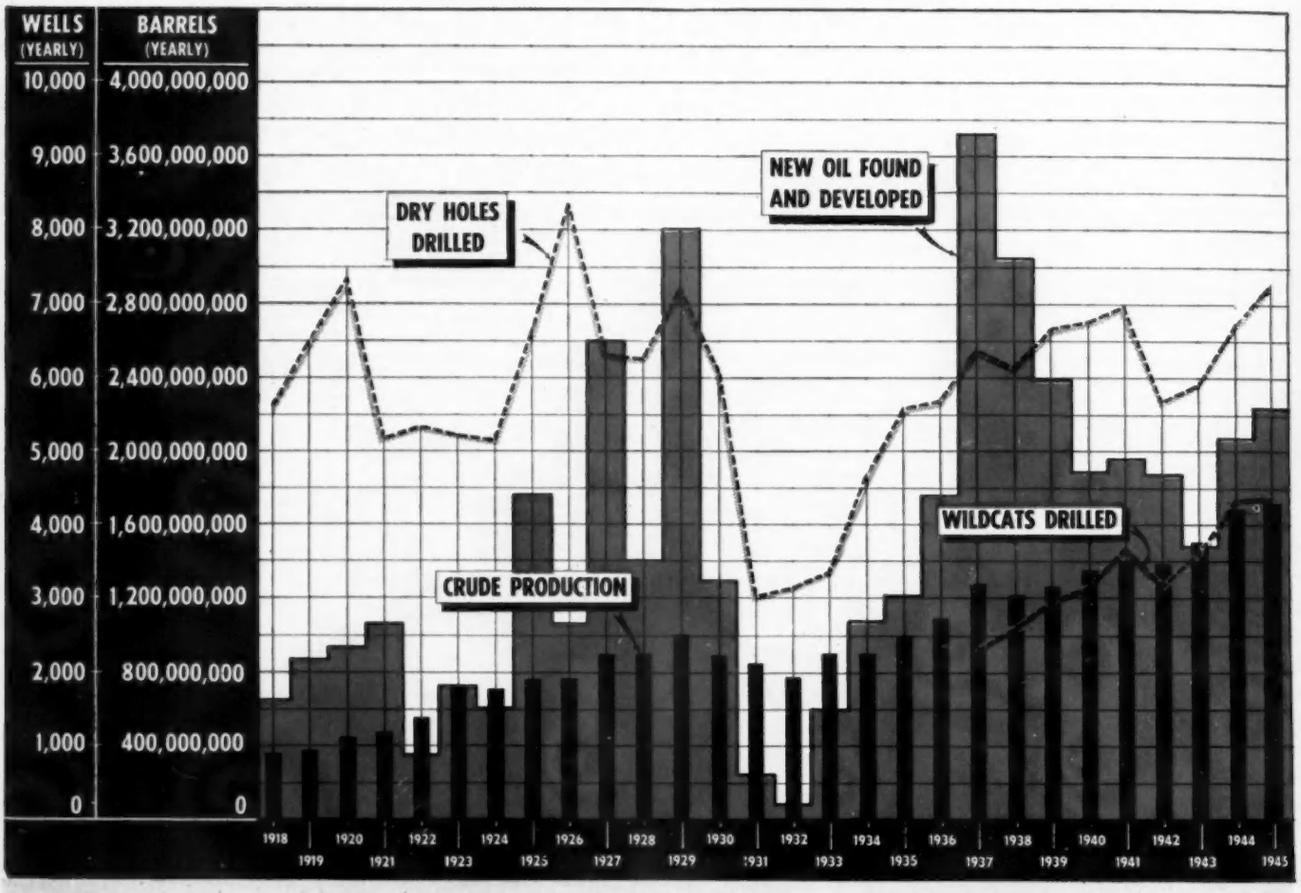
The most significant increase in crude reserves occurred in Colorado, where the Rangely field contributed most of the amount of new reserves blocked out during the year. Rangely was the outstanding field of the nation. At the beginning of the year, Colorado had 88¾ million barrels of proved reserves. A total of 153½ million barrels of new oil was proved during the year in contrast with a production of slightly less than 5 million barrels. Thus, the state found 10 times as much oil as was produced. Consequently, Colorado's reserves at the close of year stood at 237½ million barrels, over 2½ times their volume the first of the year.

Louisiana experienced a satisfactory year, finding 211 million barrels against a production of 130¾ million barrels to boost known recoverable reserves to 1,653,522,000 barrels. Most of the new oil discovered, and also most of the states' reserves are in Southern Louisiana.

Other states that increased their remaining proved crude reserves during the year were Alabama, Florida, Illinois, Indiana, Kentucky, Michigan, Mississippi, Montana and New Mexico.

States that found less oil than they produced and therefore experienced a decline in reserves were Arkansas, California, Kansas, Missouri, Ohio, Oklahoma, Pennsylvania, Tennessee, West Virginia and Wyoming.

United States Experience in Petroleum Finding



YEAR	New Oil Found and Developed	Annual Crude Production	Dry Holes Drilled	Oil Found per Dry Hole	YEAR	New Oil Found and Developed	Annual Crude Production	Dry Holes Drilled	Oil Found per Dry Hole	Wildcat Tests Drilled	Oil Found per Wildcat Drilled
1918	655,928,000	355,928,000	5,613	116,858	1932	85,159,000	785,159,000	3,127	54,466	.....	.....
1919	878,367,000	378,367,000	5,986	146,736	1933	605,656,000	905,656,000	3,369	179,773	.....	.....
1920	942,929,000	442,929,000	7,364	128,045	1934	1,085,065,000	908,065,000	4,678	232,075	.....	.....
1921	1,072,183,000	472,183,000	5,160	207,787	1935	1,219,596,000	996,596,000	5,588	218,252	.....	.....
1922	357,531,000	557,531,000	5,332	67,053	1936	1,763,087,000	1,099,687,000	5,695	309,585	.....	.....
1923	732,407,000	732,407,000	5,214	140,469	1937	3,723,028,000	1,279,160,000	6,370	548,462	2,303	1,616,599
1924	613,940,000	713,940,000	5,152	119,469	1938	3,055,233,000	1,214,355,000	6,133	498,162	2,612	1,169,691
1925	1,763,743,000	763,743,000	6,600	267,233	1939	2,399,828,000	1,264,962,000	6,670	359,794	2,961	810,479
1926	1,070,874,000	770,874,000	8,360	128,094	1940	1,894,717,000	1,353,214,000	6,770	279,869	3,164	598,836
1927	2,601,129,000	901,129,000	6,319	411,636	1941	1,967,009,000	1,402,228,000	6,984	281,645	3,697	532,055
1928	1,401,474,000	901,474,000	6,249	224,271	1942	1,880,142,000	1,386,645,000	5,684	330,777	3,166	593,854
1929	3,207,323,000	1,007,323,000	7,229	443,674	1943	1,484,535,000	1,503,176,000	5,928	250,427	3,612	411,001
1930	1,298,011,000	898,011,000	6,097	212,893	1944	2,067,500,000	1,678,421,000	6,751	306,251	4,324	478,145
1931	251,081,000	851,081,000	3,008	166,942	1945	2,227,055,000	1,710,275,000	7,226	308,200	4,337	513,501

Source: New oil from American Petroleum Institute, except for latest year which is estimated by The OIL WEEKLY. Number dry holes and wildcats drilled from OIL WEEKLY records.

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Industry Enters Postwar Era Stocks at Exceptionally Low

Outlook improved by prospects of some rebuilding of inventories, although this is largely offset because most of reduction occurred in California

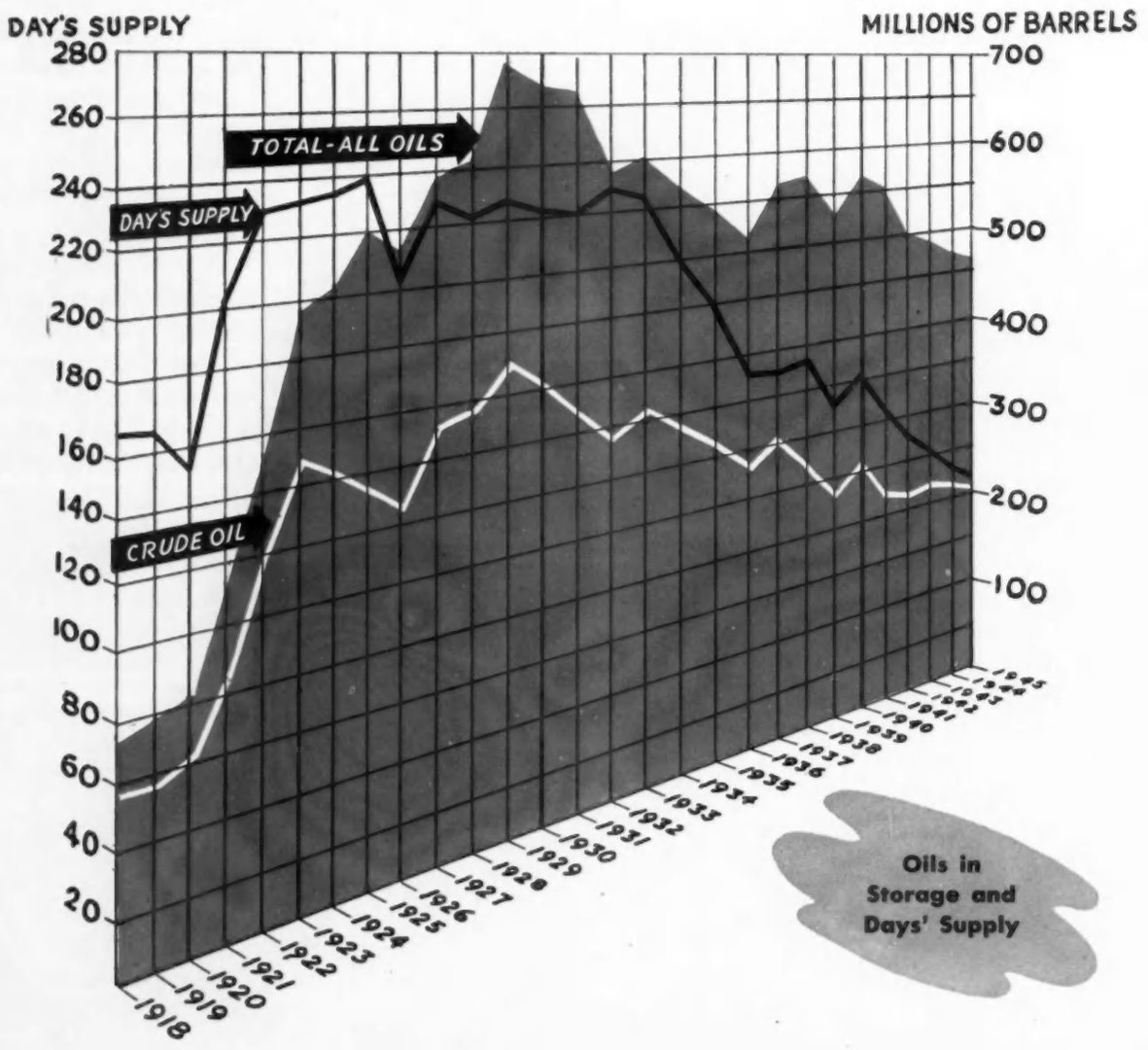
FOLLOWING the enormous demand for petroleum products during the war period, the industry has entered upon the first full postwar year with exceptionally low over-all stocks of oils. It is to be expected, therefore, that 1946 may bring some rebuilding of stocks. Such additions logically might include some accumulation of crude oil, and this would mean that domestic production of crude would run somewhat in excess of actual consumption.

Stocks of all oils in the aggregate are nearly 100 million barrels lower than when the Japanese attacked Pearl Harbor, following reductions every year since that time. They totaled approximately 463,422,000 barrels at the end of 1945, and represented only 87 days' supply at the current annual rate of demand for all oils. The decline of stocks of all oils to this recent position was prolonged and steady during the war years, as shown here in a table.

Year	Stocks End Of Year (Thousand Bbls.)	Days' Supply
1941	552,328	127
1942	497,940	116
1943	485,698	106
1944	477,089	93
1945	463,422	87

These figures show a total reduction of 88,906,000 barrels in the stocks of all oils during the four years between the end of 1941 and the close of 1945. However, stocks of motor fuel and kerosine are slightly higher than four years ago, and the withdrawals have been from the stocks of crude oil, residual fuel oil, and distillate fuel oil.

For the country as a whole, there has been since Pearl Harbor an aggregate draft of 92,783,000 barrels on stocks of crude oil, residual fuel oil, and distillate fuel oil. This included 34,255,000 barrels of crude, including heavy in



With Levels

California, 45,253,000 barrels of residual fuel, and 13,275,000 barrels of distillate fuel oil.

Of the 92,783,000 barrels of crude and fuel oils taken from storage in the United States, 62,927,000 barrels or over two thirds represented reductions in California, against 29,856,000 barrels or less than one third east of California.

Inasmuch as California represents a practically independent producing, marketing, and refining region, without material influence on markets in the remainder of the country, it is important to break down the above figures, showing what part of the stocks are in that state and what amounts outside California. Such breakdown of stocks figures is here given.

Item	End Of 1941 (Thous. Bbls.)	End Of 1945 (Thous. Bbls.)	Change
In California:			
Refinable Crude	35,591	18,124	—17,467
Heavy Crude	10,179	4,505	— 5,674
Total Crude	45,770	22,629	—23,141
Residual Fuel Oil	53,199	18,366	—34,833
Distillate Fuel Oil	12,713	7,760	— 4,953
Total Crude & Fuels	111,682	48,755	—62,927
East Of California:			
Refinable Crude	211,908	200,794	—11,114
Residual Fuel Oil	29,996	19,576	—10,420
Distillate Fuel Oil	37,213	28,891	— 8,322
Total Crude & Fuels	279,117	249,261	—29,856

While stocks of crude oil have been reduced more sharply in California than in the rest of the country, those east of California are now 11,114,000 barrels lower than at the end of 1941. The crude stocks are said by economists to be at minimum working levels in almost all areas at present, and they believe that some stock increase probably will be necessary to provide flexibility in crude oil movements, which is needed at the current rates of operation. For the country as a whole, present crude stocks represent only 45 days' supply, against 46 days' a year ago and 61 days' supply held at the end of 1941.

As seen in the accompanying table, the stocks of residual fuel oil and distillate fuel oil, as of crude, are materially lower than at the end of 1941 in the region east of California as well as in that state. Residual fuel east of California totaled 19,576,000 barrels at the end of 1945, down 10,420,000 from the 29,996,000 barrels held December 31, 1941. Distillate stocks were down to 28,891,000 from 37,213,000, a decrease of 8,322,000 barrels.

Total stocks of residual fuel oil in the United States at the end of 1945 repre-

Stocks of Crude Petroleum in U. S. by Grades, at end of December

Based on Weekly Reports of U. S. Bureau of Mines

THOUSANDS OF BARRELS

GRADE OR ORIGIN	Dec. 27, 1941	Dec. 30, 1944	Dec. 29, 1945	Change 1941-1945
Pennsylvania Grade	3,642	2,115	1,923	— 1,719
Other Appalachian	1,427	1,472	1,425	— 2
Lima-Michigan	1,360	991	1,012	— 348
Illinois-Indiana	18,201	13,649	15,759	— 2,442
Arkansas	2,708	2,845	2,566	— 142
Kansas	7,481	8,258	9,611	+ 2,130
Louisiana	12,901	13,496	13,202	+ 301
Northern	4,078	3,333	3,492	— 586
Gulf Coast	8,823	10,163	9,710	+ 887
Mississippi	2,290	1,202	2,451	+ 161
New Mexico	6,862	6,597	6,164	— 698
Oklahoma	51,582	30,338	34,137	—17,435
Texas	82,155	112,166	102,763	+20,608
East Texas	20,287	19,315	17,148	— 3,139
West Texas	18,682	32,123	32,476	+13,794
Gulf Coast	24,153	31,528	28,008	+24,153
Other Texas	19,033	29,200	25,131	+ 6,098
Panhandle	.....	6,156	4,479	.....
North	.....	7,314	6,117	.....
South	.....	6,902	5,907	.....
Other	.....	8,828	8,628	.....
Rocky Mountain	16,095	7,045	7,089	— 9,006
California	35,083	20,201	18,124	—16,959
Foreign	2,203	2,623	2,692	+ 489
Total Gasoline Bearing in U. S.	243,990	222,998	218,918	—25,072
Heavy in California	9,925	6,148	4,505	— 5,420
Total in U. S.	253,915	229,146	223,423	—30,492

Stocks of Major Petroleum Products Held by Refining Companies in the United States at end of December, 1945 Compared with 1941 and 1944

Stocks at refineries, at bulk terminals, in transit, and in pipe lines. Data for 1941 and 1944 from Bureau of Mines monthly reports; for 1945 from weekly reports of American Petroleum Institute

(Thousands of Barrels)

DISTRICT	FINISHED AND UNFINISHED GASOLINE Stocks End of December			KEROSINE Stocks End of December			DISTILLATE FUEL OIL Stocks End of December			RESIDUAL FUEL OIL Stocks End of December		
	1941	1944	1945	1941	1944	1945	1941	1944	1945	1941	1944	1945
Combined East Coast—Southwest	44,411	37,403	46,038	6,446	6,895	6,709	28,872	19,433	20,180	22,685	18,815	14,524
East Coast	21,183	12,197	20,145	2,489	4,359	3,546	18,631	9,621	11,753	10,041	6,831	6,850
Inland Texas	3,288	2,627	2,890	282	198	243	301	374	392	1,349	727	733
Texas Gulf Coast	15,831	15,177	16,736	2,949	1,205	1,728	7,801	7,549	5,848	8,710	9,974	5,114
Louisiana Gulf Coast	3,303	4,966	4,490	513	985	879	1,798	1,292	1,696	2,217	1,098	1,492
Noth Louisiana and Arkansas	806	2,436	1,777	213	148	313	341	597	491	368	185	335
Appalachian	3,684	4,071	4,175	311	561	389	704	734	746	578	598	463
District No. 1	.....	2,443	3,010	.....	507	338	.....	537	609	.....	365	273
District No. 2	.....	1,638	1,165	.....	54	51	.....	197	137	.....	233	190
Indiana, Illinois, Kentucky	18,327	19,765	19,440	1,168	2,362	1,846	5,552	6,419	5,370	4,152	3,060	2,751
Oklahoma, Kansas, Missouri	8,875	8,235	8,536	618	704	623	1,766	2,132	2,124	2,046	1,352	1,086
Rocky Mountain	1,809	1,730	1,965	129	127	109	319	356	471	535	511	752
District No. 3	.....	72	104	.....	22	20	.....	22	17	.....	36	36
District No. 4	.....	1,658	1,861	.....	105	89	.....	334	454	.....	475	716
California	16,992	15,626	15,051	927	501	525	12,713	9,259	7,760	53,199	26,047	18,366
Total United States	94,098	86,830	95,205	9,599	11,150	10,201	49,926	38,333	36,651	83,195	50,383	37,942

sented 26 days' supply at the 1945 rate of demand, compared with 35 days' supply held a year ago and 76 days' supply at the end of 1941. Stocks of distillate fuel in the U. S. at the end of 1945 were equivalent to 52 days' supply, as against 55 days' supply held one year previously and 95 days' needs at the end of 1941.

In contrast with the relatively low inventories of crude and fuel oils, the stocks of motor fuel were nearer normal at the end of 1945 on both volume and days' supply basis. The 91,280,000 barrels then held compared with 90,688,000 barrels at the end of 1941, and represented 42 days' supply at the 1945 rate of demand against 48 days' supply at the close of 1941. Since the beginning of 1946 there has been, however, a relatively large accumulation of gasoline in storage, and there is some anxiety over the prospect that available gasoline storage may be filled by the end of February, and that the stocks may cause an unstable market for motor fuel later this year. As of January 26, 1946, stocks of finished and unfinished gasoline in the United States totaled 101,737,000 barrels, the American Petroleum Institute reported. This compared with 90,222,000 barrels held a year previously, and was well along toward the all-time peak of 109,281,000 barrels reached March 14, 1942. The current large accumulation of gasoline in storage is made necessary by the relatively high crude runs to stills in meeting the seasonally heavy demand for fuel oils.

United States Imports Rise to Near Peak

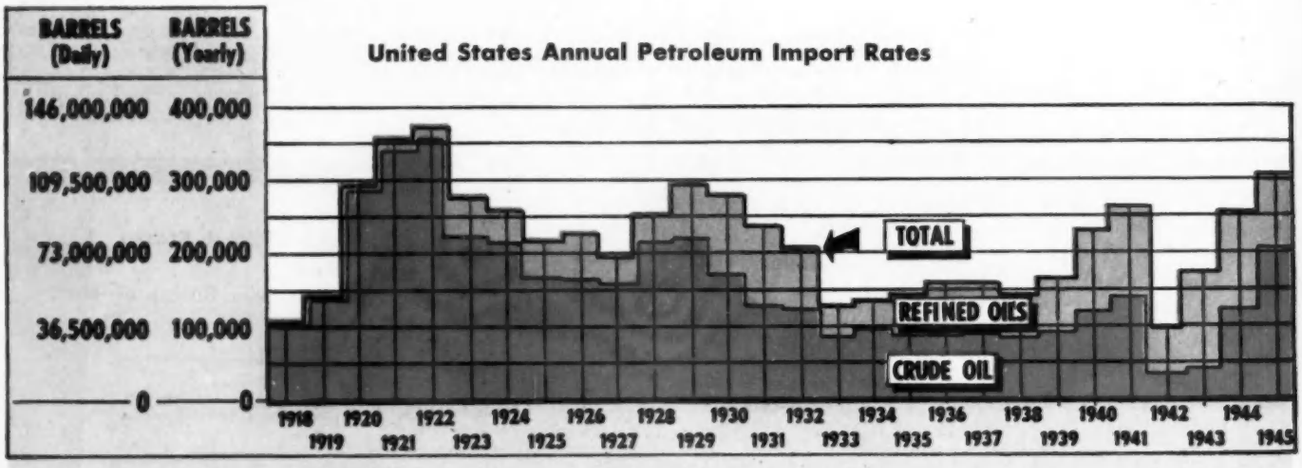
Many fear future importation rates will be so high as to exert retarding influence on domestic market

IMPORTS of petroleum into the United States during 1945 were at the highest level since 1922. They were the third highest annual rate in history, and well above prewar volumes. The sharp increase, of course, was influenced by the tremendous consumptive demand and the rapid growth of production in countries outside the United States, primarily Venezuela.

Importation rates during 1946 will be watched with much interest. Most observers anticipate that the United States will import greater volumes in the future than before the war, with many fearing they will reach such levels as to have a very material retarding influence on the domestic market. Primary cause of such beliefs is the exceptionally sharp increase in producing rates of other nations, and prospects that additional growth in production will take place in the immediate future.

A total of 111,682,000 barrels of crude oil and refined products came into the United States from other countries during 1945. This constituted a daily average of 306,000 barrels, as compared with 252,000 barrels per day during 1944 and 226,000 barrels daily in 1940. The highest importation rates in history were in 1921 and 1922, when a daily average of 372,500 and 352,900 barrels per day were brought into the United States. The 1945 rate was exactly double the average for the five year period of 1935-1939.

Two-thirds of the volume imported by the United States in 1945 was in the form of crude, which gained sharply over 1944 rates while the amount of refined products imported declined slightly. A total of 202,000 barrels of crude oil and 104,000 barrels of petroleum products entered the nation daily the past year.



United States Annual Petroleum Import Rates

YEAR	CRUDE OIL Annual Total	CRUDE OIL Daily Average	REFINED PRODUCTS Annual Total	REFINED PRODUCTS Daily Average	TOTAL IMPORTS Annual Total	TOTAL IMPORTS Daily Average
1918....	37,736,000	103,400	1,227,000	3,400	38,963,000	106,800
1919....	52,822,000	144,700	1,376,000	3,800	54,198,000	148,500
1920....	106,175,000	290,100	2,647,000	7,200	108,822,000	297,300
1921....	125,364,000	343,500	3,428,000	9,400	128,792,000	352,900
1922....	130,255,000	356,800	5,719,000	15,700	135,974,000	372,500
1923....	82,015,000	224,700	17,638,000	48,300	99,653,000	273,000
1924....	77,775,000	212,500	16,806,000	45,900	94,581,000	258,400
1925....	61,824,000	169,400	16,376,000	44,900	78,200,000	214,300
1926....	60,382,000	165,400	20,938,000	57,400	81,320,000	222,800
1927....	58,383,000	159,900	13,353,000	36,600	71,736,000	196,500
1928....	79,767,000	218,000	11,790,000	32,200	91,557,000	250,200
1929....	78,933,000	216,200	29,777,000	81,600	108,710,000	297,800
1930....	62,129,000	170,200	43,489,000	119,200	105,618,000	289,400
1931....	47,250,000	129,500	38,837,000	106,400	86,087,000	235,900
1932....	44,682,000	122,100	29,812,000	81,400	74,494,000	203,500
1933....	31,893,000	87,400	13,501,000	37,000	45,394,000	124,400
1934....	35,558,000	97,400	14,936,000	40,900	50,494,000	138,300
1935....	32,239,000	88,300	20,396,000	55,900	52,635,000	144,200
1936....	32,327,000	88,300	24,777,000	67,700	57,104,000	156,000
1937....	27,484,000	75,300	29,673,000	81,300	57,157,000	156,600
1938....	26,412,000	72,400	27,896,000	76,400	54,308,000	148,800
1939....	33,095,000	90,700	25,965,000	71,100	59,060,000	161,800
1940....	42,738,000	116,800	40,178,000	109,800	82,916,000	226,600
1941....	50,606,000	138,600	46,536,000	127,500	97,142,000	266,100
1942....	12,297,000	33,700	23,669,000	64,800	35,966,000	98,500
1943....	13,833,000	37,900	49,579,000	135,800	63,412,000	173,700
1944....	44,805,000	122,400	47,451,000	129,600	92,256,000	252,100
1945....	73,892,000	202,000	37,790,000	104,000	111,682,000	306,000

Source: U. S. Bureau of Mines, except for latest year, which is estimated by The OIL WEEKLY with aid of Bureau statistics for first 10 months.

Baash-Ross News

BAASH-ROSS TOOL COMPANY · LOS ANGELES · HOUSTON · NEW YORK

OUR 25th YEAR

BAASH-ROSS KAMMERDINER JARS

combine ALL these important features in one tool!

Blow is instantly variable at any time!

In the Baash-Ross Kammerdiner Jar the force of the blow is not only instantly adjustable from the surface (no need to pull the tool to vary the blow!) . . . *but the adjustment can readily be made at any time in the operating cycle.*

This feature is of utmost importance. Should you start to take too heavy a blow, you don't have to complete the stroke before re-adjusting. At *any* time in the operating cycle — right up to the point where the blow is actually struck — you can instantly adjust for either greater or less force in the jarring action, whichever you want!

Packed off for high circulation pressures!

And here's another feature that increases the utility of the Baash-Ross Jar . . . It is fully packed-off so that high-pressure circulation can be maintained through the tool to other equipment below. Thus, these Jars can be run with formation testers and similar tools with the positive assurance that high circulation pressures can be applied at any time. This feature can also simplify certain fishing jobs where it is desired to use circulation pressure as well as jarring action to loosen the fish!

Simple, rugged, fool-proof design!

There are no delicate parts, no tricky mechanisms, no critical adjustments to worry about in the Baash-Ross Kammerdiner Jar. Its parts are few and are ruggedly proportioned to assure the maximum in trouble-free service. From top to bottom it is built for sustained *hour-after-hour* jarring on the toughest kind of fishing jobs!

And this is a cost-cutting feature for export users — the Jar can be quickly renewed by simply replacing the mandrel and sleeve. There's no wear on the body. It lasts indefinitely!

WE KNOW of no other rotary jar that has been used on as many types of jobs—under as widely varying conditions—or in as many parts of the world as the Baash-Ross Kammerdiner. It's a jar you can depend upon for virtually any application!

There's a full range of sizes—2⅞" through 6½". Your Baash-Ross representative has full details . . . or write us direct. Also see page 287 of your Composite Catalog!

(Leased in U.S.A.—Sold for export only.)

Sharp Stills

UNITED STATES refining plants processed far more crude and manufactured much larger quantities of products during 1945 than ever before. This was the third consecutive year in which the nation's refining operations rose to new all time highs. However, this upward trend terminated with the end of the war. Consequently, 1946 will see substantially less crude oil processed and products turned out.

A total of 1,273,294,000 barrels of crude oil was run to refinery stills during the year, an average of 4,721,000 barrels daily. This 3.5 percent more than the 1,665,684,000 barrels (4,563,500 barrels daily) charged to stills in 1944, and compared with 3,917,000 barrels per day in 1943.

Establishment of these new peaks was the result of the industry's effort to manufacture enough petroleum products to satisfy wartime requirements, and refinery operations during the closing months of the year were considerably below levels of preceding months. From the then near all-time high of 4,680,000 barrels daily that existed in January, 1945, crude runs to stills rose to the highest rate in history by July, when they averaged 5,001,000 barrels per day. From this record volume they declined to 4,244,000 barrels per day in October, then increased again in November and December because of the shortage of heating and residual fuel oil. The December daily average was 4,605,000 barrels, down 400,000 barrels from the maximum peak that prevailed last July.

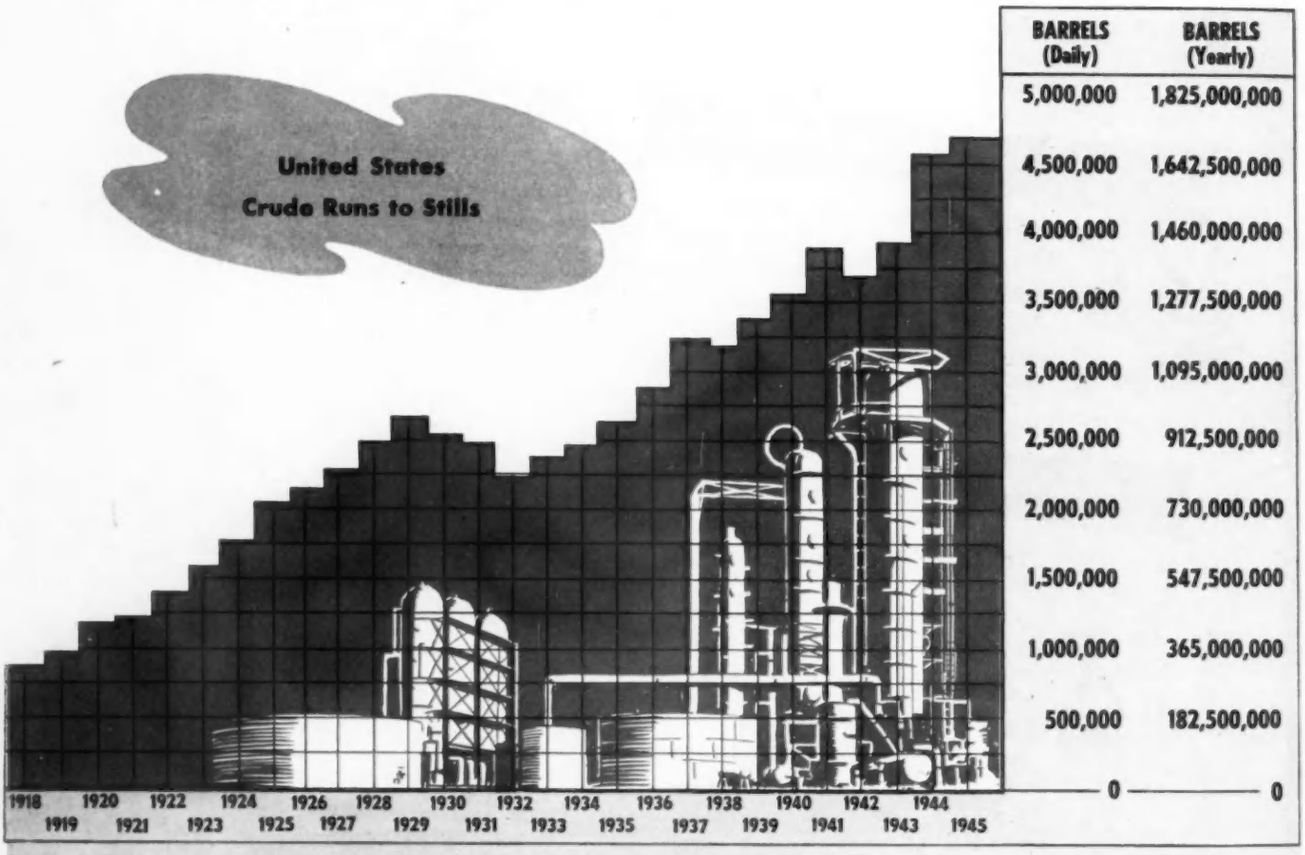
Despite the sharp decrease in crude runs following the end of the war, further decline is anticipated. Some observers have estimated that crude runs to stills in 1946 will average around 4,250,000 barrels per day, with a low under this level to exist during early spring months. This would be a big decline, roughly ¾ milion barrels under the war peak and 1/3 million barrels below the year-end rate of running crude oil.

With reduced consumption of petroleum products to exist in 1946, there will be considerable idle refining capacity in the United States. During the war, this refining capacity rose sharply. At the end of 1945 it was 5,404,000 barrels per day, a gain of ¾ million barrels over that of December, 1941.

The war years saw nearly a billion dollars worth of new refining facilities built in the United States, including great catalytic cracking units costing millions of dollars each and smaller units in dozens of plants from coast to coast. These units turned out huge volumes of high-octane base stocks and blending components for military and aviation gasoline, motor fuel, butadiene for synthetic rubber and toluene for explosives, as well as enlarged quantities of kerosine and fuel oils.

However, much of the wartime increase in domestic throughput of crude came from better use of existing facilities. Engineering, ingenuity and scheduling were the chief contributors. A pump was added here, a compressor there, to improve plant operations; and facilities long idle were put back in operation.

During 1944 and until the war ended in 1945, around 95 to 98 percent existing capacity was in use. By the end of 1945, only 85 percent of the total refining capacity was being operated. Idle facilities will increase further during the next sev-



YEAR	Annual Total	Daily Average	YEAR	Annual Total	Daily Average	YEAR	Annual Total	Daily Average	YEAR	Annual Total	Daily Average
1918	326,025,000	893,200	1925	739,920,000	2,027,200	1932	819,997,000	2,240,400	1939	1,237,840,000	3,391,000
1919	361,520,000	990,500	1926	779,264,000	2,135,000	1933	861,254,000	2,359,600	1940	1,294,283,000	3,536,300
1920	433,915,000	1,185,600	1927	828,835,000	2,270,800	1934	895,636,000	2,453,800	1941	1,409,192,000	3,860,800
1921	443,363,000	1,214,700	1928	913,295,000	2,495,300	1935	965,790,000	2,646,000	1942	1,334,103,000	3,655,076
1922	500,706,000	1,371,800	1929	987,708,000	2,706,100	1936	1,068,570,000	2,919,000	1943	1,429,738,000	3,917,000
1923	581,238,000	1,592,400	1930	927,447,000	2,541 000	1937	1,183,440,000	3,242,000	1944	1,665,684,000	4,563,517
1924	643,719,000	1,758,800	1931	894,608,000	2,451,000	1938	1,165,015,000	3,191,800	1945	1,723,294,000	4,721,000

Source:—U. S. Bureau of Mines, except for latest year which has been calculated from Bureau statistics for first 10 months and American Petroleum Institute weekly reports for the last two months.

Reduction in Crude Runs to Due to Follow War Peak

Crude runs to stills in 1946 expected to be under recent months, although large reduction followed 5 million barrel daily peak at end of the war

eral months, as the quantity of crude oil charged to stills is cut back in keeping with the reduction anticipated in consumption.

Product Yields A Problem

Proper adjustment of refinery product yields will be a difficult problem during 1946. During the last year and a half of the war, efforts were devoted primarily to increasing the yield of aviation gasoline, high-octane motor fuel and other light-phase products, because they were in great demand. This was accomplished by adjustment of yields as well as by constructing units especially suited for this purpose. There is less relative need for such products now.

This situation already has caused the industry considerable worry. That refiners have not properly adjusted their plant yields to product market requirements is clearly indicated by trends in gasoline and fuel oil stocks. Stocks of gasoline rose sharply between December 1, 1945, and January 26, 1946, climbing 22 million barrels according to the weekly reports of American Petroleum Institute. On the latter date they stood in excess of 107 million barrels, indicating they soon would top the all-time high of 109 million barrels that existed in the spring of 1942, and perhaps reach a peak of 120 million barrels. At their recent level of 107 million barrels, gasoline stocks were 17½ million barrels above their year-ago volume.

Meanwhile, stocks of fuel oils dropped sharply during the same period. Drafts on distillate fuel oil inventories totaled 15 million barrels and those on residual fuel oil amounted to almost 7 million barrels. While the quantity of fuel oils in storage normally declines during this season of the year, the recent rate has been above normal and stocks of these products currently are quite low. Distillate fuel oil inventories on January 26 were 3 million barrels under that of a year ago, and residual fuel oil stocks were 11 million barrels lower than 12 months previously.

So as not to become over-burdened with excessive gasoline stocks, refiners must adjust the yields of their plants to manufacture more fuel oils and less gasoline. They received belated encouragement to do this in January, 1946, when price ceilings on kerosine and distillate fuel oil were increased, permitting profits on these products more closely approximating the financial return on gasoline.

That the industry has not made proper adjustments of refinery yields also is reflected by statistics on refining output. Whereas 41.4 percent of the crude charged to stills in July, 1945, was made into gasoline, the yield stood at 41.6 percent in December, 1945. Meanwhile, the yield of residual fuel oil also changed but slightly, dipping from 27 percent in July to 26.4 percent during the last month of the year. The percent of distillate fuel oil rose from 14.3 to 15 percent during the same period of time.

With the increased price ceilings on kerosine and distillate fuel oil, yield adjustments may occur immediately. These will be necessary, or the industry will experience a situation which will mean trouble for a long time.

Peak Product Output

In processing a record volume of crude oil, refining plants manufactured products at all-time peak rates in 1945.

A total of 777,891,000 barrels of gasoline (straight run, cracked and natural blended at refineries) was produced, or 5 million barrels more than in 1944, and 135 million more than 1943. This total was 76 million barrels greater than the prewar peak of 1941. Thus, 2,131,000

Crude Runs to Stills at U. S. Refineries and Percent of Refinery Capacity Used, By Districts, December and Year, 1941, 1944, and 1945

Runs from Bureau of Mines, except November and December, 1945, from American Petroleum Institute; Capacities from American Petroleum Institute.

(THOUSANDS OF BARRELS)

Refining District	CRUDE RUN IN DECEMBER: Total Amount Run During Month				CRUDE RUN IN DECEMBER: Daily Average Run During Month			REFINING CAPACITY AND USE IN DECEMBER: Daily Capacity			REFINING CAPACITY AND USE IN DECEMBER: Percent Capacity Used			CRUDE RUN DURING YEAR: Total Amount Run During Year				CRUDE RUN DURING YEAR: Daily Average Run During Year			
	Dec. 1941	Dec. 1944	Dec. 1945	% Diff. 1944-1945	Dec. 1941	Dec. 1944	Dec. 1945	Dec. 1941	Dec. 1944	Dec. 1945	Dec. 1941	Dec. 1944	Dec. 1945	1941	1944	1945	% Diff. 1944-1945	1941	1944	1945	% Diff 1944-1945
Combined—E. Coast—S. W.	66,968	74,555	75,955	+18.8	2,160	2,405	2,450	2,355	2,518	2,743	91.7	95.5	89.3	730,603	861,475	890,416	+ 3.4	2,002	2 354	2,439	+ 3.6
East Coast	19,750	.....	23,362	.....	637	.....	754	704	.....	790	90.5	.....	95.0	217,046	.....	273,848	.....	595	.....	750	.....
Inland Texas	5,761	.....	6,428	.....	186	.....	207	265	.....	330	70.2	.....	62.7	66,640	.....	85,478	.....	183	.....	234	.....
Texas Gulf	33,919	.....	35,093	.....	1,094	.....	1,132	1,117	.....	1,237	97.9	.....	91.5	363,252	.....	403,631	.....	995	.....	1,106	.....
Louisiana Gulf	4,925	.....	9,266	.....	159	.....	299	172	.....	260	92.4	.....	115.0	54,300	.....	99,500	.....	149	.....	272	.....
N. La.-Ark	2,613	.....	1,806	.....	84	.....	58	97	.....	126	86.6	.....	46.0	29,365	.....	27,959	.....	80	.....	77	.....
Appalachian	4,575	4,697	4,688	— 0.2	148	151	151	174	177	196	85.1	85.9	73.3	53,499	56,349	56,094	— 0.4	147	154	154	.....
District 1	.....	.....	2,915	.....	.....	.....	94	.....	.....	146	.....	.....	64.4	.....	.....	35,631	.....	.....	.....	98	.....
District 2	.....	.....	1,773	.....	.....	.....	57	.....	.....	50	.....	.....	95.0	.....	.....	20,463	.....	.....	.....	56	.....
Ind.-Ill.-Ky	22,078	24,190	22,863	— 5.5	712	780	737	776	824	857	91.8	94.7	86.0	251,257	278,785	277,098	— 0.6	688	762	759	— 0.4
Okla.-Kans.-Mo	10,711	11,677	11,594	— 0.7	346	377	374	418	418	469	83.3	90.2	79.7	127,130	133,106	139,285	+ 4.6	348	363	382	+ 5.2
Rocky Mountain	2,848	3,824	3,718	— 2.8	92	123	120	137	154	172	67.2	79.9	69.8	33,570	41,254	46,262	+12.1	92	113	126	+11.5
District 3	.....	.....	396	.....	.....	.....	13	.....	.....	13	.....	.....	100.0	.....	.....	4,550	.....	.....	.....	12	.....
District 4	.....	.....	3,322	.....	.....	.....	107	.....	.....	159	.....	.....	67.3	.....	.....	41,712	.....	.....	.....	114	.....
California	17,805	26,182	23,955	— 8.5	574	845	773	787	817	967	72.9	103.4	80.0	213,133	294,715	314,139	+ 6.6	584	805	861	+ 7.0
Total U. S.	124,985	145,125	142,773	— 1.6	4,032	4,681	4,605	4,647	4,908	5,404	86.8	95.4	85.2	1,409,192	1,665,684	1,723,294	+ 3.5	3,861	4,551	4,721	+ 3.7

barrels of gasoline were manufactured daily in 1945, in contrast with 1,975,000 barrels in 1944 and 1,839,000 barrels in 1941.

Production of gasoline reached a record level in July, with a daily average of 2,339,000 barrels. As crude runs were curtailed following the end of the war, gasoline output dropped to 1,955,000 barrels in October. December yield was 2,103,000 barrels, a decrease not in keeping with the reduction in consumption.

The yield of fuel oils also was at a new peak last year. A total of 467,867,000 barrels of residual fuel oil was manufactured, an average of 1,282,000 barrels daily. This was 5 million barrels more than the previous annual high established in 1944, or 20,000 more daily. As compared with prewar 1941, output of residual fuel oil was nearly 125 million barrels greater, an increase of better than one-third.

Residual fuel oil production reached an all-time high of 1,351,000 barrels daily in June and July, and stood at 1,216,000 barrels per day in December. Lowest level of the year was in October, when 1,176,000 barrels were manufactured per day.

The 1945 output of distillate fuel oil also set a record 250,007,000 barrels or an average of 685,000 barrels daily. This was 11 million (32,000 barrels daily), more than produced in 1944; and 60 million barrels (167,000 daily) greater than 1941.

Increases in refining capacity during the war was fairly well distributed through various sections. The largest increase was in California, which at the end of 1945 had 967,000 barrels per day capacity in contrast with 787,000 barrels at the time of Pearl Harbor.

The Texas Gulf Coast region is by far the biggest refining area in the United States with current capacity of 1,237,000 barrels per day.

Refinery Production of Major Products and Percent Yield from Crude Run, By Districts

Results in December and Year, 1945, compared with same periods in 1944 and 1941. Figures are from Bureau of Mines except that November and December 1945 are estimated with aid of A. P. I. weekly bulletins.

(THOUSANDS OF BARRELS)

REFINING DISTRICT	*GASOLINE			KEROSINE			DISTILLATE FUEL OIL			RESIDUAL FUEL			LUBRICANTS		
	1941	1944	1945	1941	1944	1945	1941	1944	1945	1941	1944	1945	1941	1944	1945
Combined East Coast, Texas, Inland, Texas Gulf, La. Gulf, No. Louisiana and Arkansas															
Production, December	32,054	31,359	33,567	4,379	4,088	5,525	10,923	11,830	13,695	15,549	19,593	18,420	2,030	2,033	2,088
(Daily Average)	1,034	1,012	1,083	141	132	178	352	382	442	502	632	594	65	66	67
Percent Yield from Crude	44.4	37.8	38.6	6.5	7.4	7.3	16.3	13.3	18.0	23.2	26.3	24.3	3.0	2.7	2.7
Production, Whole Year	332,070	358,139	390,751	46,988	49,355	52,746	113,953	145,299	153,771	171,077	224,208	219,077	21,415	22,654	23,486
(Daily Average)	910	979	1,011	129	135	145	312	397	421	469	613	600	59	62	64
East Coast															
Production, December	8,256	.....	7,793	886	.....	1,182	3,753	.....	4,197	4,464	.....	7,765	806	.....	748
(Daily Average)	266	.....	251	29	.....	38	121	.....	135	144	.....	250	26	.....	24
Percent Yield from Crude	40.6	.....	33.2	4.5	.....	5.1	19.0	.....	18.0	22.6	.....	33.2	4.1	.....	3.2
Production, Whole Year	85,379	.....	98,101	9,169	.....	10,644	40,766	.....	50,491	51,741	.....	85,441	8,608	.....	8,642
(Daily Average)	234	.....	269	25	.....	29	112	.....	138	142	.....	234	24	.....	24
Inland Texas															
Production, December	4,179	.....	4,068	253	.....	401	191	.....	440	1,274	.....	1,512	23	.....	19
(Daily Average)	135	.....	131	8	.....	13	6	.....	14	41	.....	49	1	.....	1
Percent Yield from Crude	60.4	.....	49.0	4.4	.....	6.2	3.3	.....	6.8	22.1	.....	23.5	0.4	.....	0.3
Production, Whole Year	44,143	.....	50,233	2,987	.....	4,633	2,430	.....	6,271	14,280	.....	22,657	358	.....	256
(Daily Average)	121	.....	138	8	.....	13	7	.....	17	39	.....	62	1	.....	1
Texas Gulf															
Production, December	16,251	.....	17,168	2,331	.....	2,720	5,820	.....	7,037	7,852	.....	7,272	939	.....	1,053
(Daily Average)	524	.....	554	75	.....	88	188	.....	227	253	.....	235	30	.....	34
Percent Yield from Crude	44.6	.....	43.3	6.9	.....	7.8	17.1	.....	20.1	23.1	.....	20.7	2.8	.....	3.0
Production, Whole Year	168,204	.....	186,427	24,448	.....	22,913	59,591	.....	73,704	84,806	.....	87,392	9,677	.....	11,135
(Daily Average)	461	.....	511	67	.....	63	163	.....	202	232	.....	239	26	.....	31
Louisiana Gulf															
Production, December	2,141	.....	3,798	656	.....	1,088	923	.....	1,741	1,287	.....	1,439	206	.....	167
(Daily Average)	69	.....	123	21	.....	35	30	.....	56	41	.....	46	7	.....	5
Percent Yield from Crude	40.5	.....	38.4	13.3	.....	11.7	18.7	.....	18.7	26.1	.....	15.5	4.2	.....	1.8
Production, Whole Year	21,265	.....	44,463	7,304	.....	12,047	8,631	.....	19,746	13,070	.....	17,186	2,093	.....	2,047
(Daily Average)	58	.....	122	20	.....	33	24	.....	54	36	.....	47	6	.....	6
North Louisiana and Arkansas															
Production, December	1,227	.....	740	253	.....	134	236	.....	280	672	.....	432	56	.....	101
(Daily Average)	40	.....	24	8	.....	4	8	.....	9	22	.....	14	2	.....	3
Percent Yield from Crude	43.2	.....	34.1	9.7	.....	7.4	9.0	.....	15.5	25.7	.....	23.9	2.1	.....	5.6
Production, Whole Year	13,079	.....	11,527	3,080	.....	2,509	2,535	.....	3,559	7,180	.....	6,401	679	.....	1,406
(Daily Average)	36	.....	32	8	.....	7	7	.....	10	20	.....	18	2	.....	4
Appalachian															
Production, December	2,277	2,087	2,261	253	303	276	440	535	544	619	733	615	530	426	396
(Daily Average)	74	67	73	8	10	9	14	17	18	20	24	20	17	14	13
Percent Yield from Crude	48.7	43.7	47.3	5.5	6.4	5.9	9.6	6.4	11.6	13.5	15.6	13.1	11.6	9.1	8.4
Production, Whole Year	25,606	24,163	25,924	3,166	3,894	3,327	4,863	6,313	6,145	7,709	9,194	8,971	6,414	5,278	4,825
(Daily Average)	70	66	71	9	11	9	13	17	17	21	25	25	18	14	13
Illinois, Indiana, Kentucky															
Production, December	12,319	12,685	11,599	1,187	1,072	1,518	2,459	2,931	2,768	4,238	4,985	4,321	392	413	365
(Daily Average)	397	409	374	38	35	49	79	95	89	137	161	139	13	13	12
Percent Yield from Crude	52.6	49.0	47.8	5.4	4.4	6.6	11.1	12.1	12.1	19.2	20.6	18.9	1.8	1.7	1.6
Production, Whole Year	138,481	142,276	144,198	11,864	13,665	13,008	26,288	34,544	34,737	46,761	56,890	53,231	4,307	4,526	4,400
(Daily Average)	379	389	395	33	37	36	72	94	95	128	155	146	12	12	12
Oklahoma, Kansas, Missouri															
Production, December	6,333	6,250	6,148	651	648	674	1,232	1,771	1,632	1,898	2,208	2,016	355	422	429
(Daily Average)	204	202	198	21	21	22	40	57	53	61	71	65	11	14	14
Percent Yield from Crude	54.9	49.5	49.4	5.1	5.6	5.8	11.5	15.2	14.1	17.7	18.9	17.4	3.3	3.6	3.7
Production, Whole Year	71,388	68,289	72,693	7,505	7,767	7,977	13,431	19,281	20,643	22,408	23,984	24,596	3,976	4,627	5,310
(Daily Average)	195	187	199	21	21	22	37	53	57	61	66	67	11	13	13
Rocky Mountains															
Production, December	1,460	1,843	1,739	85	104	124	250	402	425	786	1,019	1,056	21	17	27
(Daily Average)	47	59	56	3	3	4	8	13	14	25	33	34	1	1	1
Percent Yield from Crude	48.2	44.7	43.3	3.0	2.7	3.3	8.8	10.5	11.4	27.6	26.6	28.4	0.7	0.4	0.7
Production, Whole Year	17,831	19,984	21,983	906	950	1,107	2,778	4,333	5,157	7,629	11,233	13,258	187	256	269
(Daily Average)	49	55	60	3	3	3	8	12	14	21	31	36	1	1	1
California															
Production, December	7,197	9,885	9,882	127	246	372	1,838	1,589	2,398	8,037	12,740	11,282	226	270	264
(Daily Average)	232	319	319	4	8	12	59	51	77	259	411	364	7	9	9
Percent Yield from Crude	35.5	32.7	35.4	0.7	0.9	1.6	10.3	6.1	10.0	45.1	48.7	47.1	1.3	1.0	1.1
Production, Whole Year	85,734	109,867	122,342	2,157	2,713	2,800	27,803	29,382	29,554	88,411	135,946	148,734	3,240	3,765	3,832
(Daily Average)	235	300	335	6	7	8	76	80	81	242	371	407	9	10	10
Total United States															
Production, December	61,640	64,109	65,196	6,682	6,461	8,489	17,142	19,058	21,462	31,127	41,278	37,710	3,554	3,581	3,569
(Daily Average)	1,988	2,068	2,103	215	208	274	553	615	692	1,004	1,332	1,216	115	116	115
Percent Yield from Crude	45.7	40.0	41.6	5.3	4.5	5.9	13.7	13.1	15.0	24.9	28.8	26.4	2.8	2.5	2.5
Production, Whole Year	671,110	722,718	777,891	72,586	78,344	80,965	189,116	239,152	250,007	343,995	461,455	467,867	39,539	41,106	42,122
(Daily Average)	1,839	1,975	2,131	199	214	222	518	653	685	942	1,262	1,282	108	112	115

* Production indicates straight run, cracked, and natural blended at refineries. Yield indicates percent of crude runs made into straight run and cracked gasoline.

King Oil Tools

Be Sure **IT'S A KING** *Be Safe*

4C Circulating Head

KING 4C CIRCULATING HEAD

provides circulation and rotation in connection with wire line equipment. It is short, compact and withstands extreme high pressures in deep drilling.

Bearings sealed in oil-tight housing with grease nipples conveniently located; packing, single moulded ring, self-sealing and held in position by a Manganese-Bronze retainer. Packing easily renewed. API tool joint pin, 3" I.D. opening through spindle; gooseneck threaded for 3" line pipe, female; top connection 4" line pipe, female.

An effective unit when used in combination with King 4AR or 3AR Line Strippers.

AR Line Stripper

KING 4AR WIRE LINE STRIPPER

The King 4AR Wire Line Stripper is an automatic release type, having a positive latch and a sure release. Bronze rollers guide the line and are equipped with grease nipples for lubrication. Rubber strippers are inserted from the sides and can be renewed while the line is in the hole. This tool is non-sparking which lessens the fire hazard.

The 4AR Type is used mainly in wire line coring and 3AR Type is usually used for swabbing.

KING 32GA AND 53GA SWIVELS

King 32GA and King 53GA Swivels are being used in workovers on rigs in the very deepest wells—from 11,000' to 12,000'.

These swivels are also for drilling shallow and medium depth oil wells and deep water wells.

IMPORTANT FEATURES:

Bails of hammer forged alloy steel.
Bail gudgeon pins of heat-treated alloy steel.
Housings of alloy steel castings.
Washpipes of seamless steel tubes, case hardened.
V-Type packings; grease lubrication to all packing; bronze packing glands.
Kelly connections: 32GA 3½" drill pipe thread, left hand, male; 53GA 4½" drill pipe thread, left hand, male.
Hose connection: National Pipe thread or with other connections to order.

King Type "H" Jetting Down Swivel

KING 2" TYPE "H" JETTING DOWN SWIVEL

This swivel was designed for jetting down shot holes for seismograph work or for shallow water wells. It is only intended to be used where loads are light and the pipe is rotated at relatively low speeds.

Lightness and portability are features that were taken into consideration when the design was being perfected. The complete swivel weighs less than nine pounds, and this is of particular importance on jetting down rigs that are used by seismograph crews in jungles and other inaccessible places where the entire equipment must be transported manually.

Complete details will be furnished on the Jetting Down Swivel upon request.

Patented

King GA Swivel

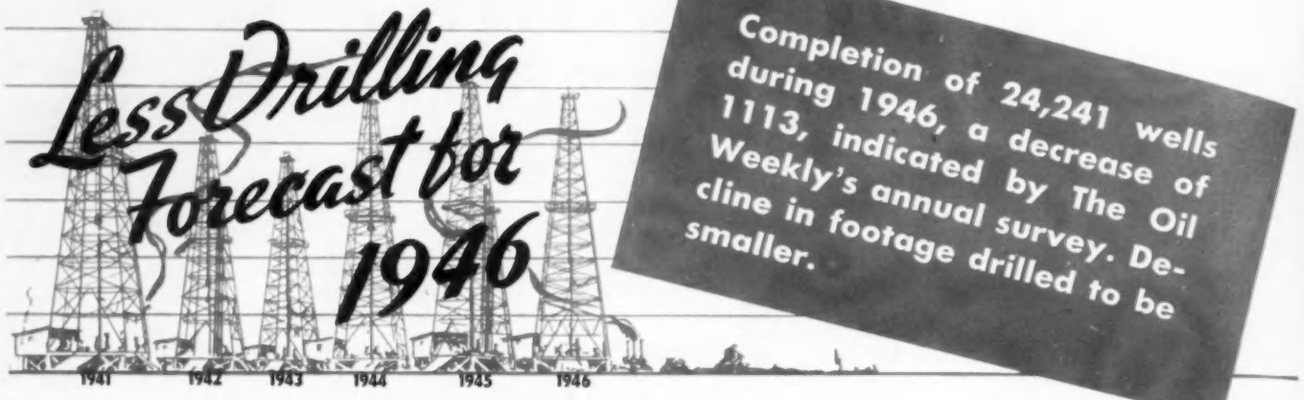
Export: **R. S. STOKVIS & SONS, Inc.**
17 Battery Place, New York 4, N. Y.

KING OIL TOOLS

210 TERMINAL STREET **PHONE W. 6-8013**

HOUSTON 10, TEXAS

Less Drilling Forecast for 1946



Completion of 24,241 wells during 1946, a decrease of 1113, indicated by The Oil Weekly's annual survey. Decline in footage drilled to be smaller.

THE OIL WEEKLY estimates that the oil industry during 1946 will drill (unless the steel strike continues for as long as a 30-day period) 24,241 wells in the United States, a decrease of 4.39 percent compared with last year. Footage to be drilled this year is forecast at 87,396,000 feet, a decrease of 3.42 percent compared with 1945.

Of the total wells to be drilled in 1946 it is estimated that 4480 will be wildcat wells.

In making its forecast on drilling operations for 1945 THE OIL WEEKLY staff committee having the work in hand says:

"With a previous record over a period of years which is so close to complete accuracy as to surprise even our own staff, we again approach the forecast of drilling operations in the United States with fear and trepidation! Our forecast for 1945, which included ONLY new wells and no wells drilled deeper, was within 92 of the actual number of wells drilled in the United States. (Our forecast was 25,262 wells and the actual number was 25,354.

"So many factors enter into the question this year that it is most difficult to forecast with any degree of certainty. Length of the steel strike can completely play havoc with any forecast, both because of the scarcity of material it would impose, as well as the market effect of prolonged inactivity of industry. What might happen to the price of oil also could change the figures.

"Consequently, in offering the accompanying forecast, we do so on the basis of a fairly early settlement of the steel and other strikes, and with no anticipation of a price increase in crude oil. In our opinion a 30-days' duration of the strike would offset the effect of a price increase later in the year.

"If the steel strike lasts beyond 30 days, this estimate will have to be reduced substantially.

"Again, we have sought the assistance of oil companies in making our forecast. Companies which drilled more than half of last year's footage have been kind

■ CONTINUED ON PAGE 128

Indicated Wells and Footage to Be Drilled in 1946

Forecast covers all new wells to be drilled for oil or gas in 1946, salt water disposal wells, and water or gas input wells for repressuring and secondary recovery, but does not estimate old wells drilled deeper.

STATE OR DISTRICT	TOTAL WELLS			WILDCAT COMPLETIONS		FOOTAGE DRILLED[1]		
	Actual New Wells, 1945	New Wells Forecast, 1946	Percent Change	Forecast, 1946	Percent of New Wells, 1946	Footage Drilled, 1945	Footage to Be Drilled, 1946	Percent Change
Alabama	38	32	— 16	20	63	151,088	145,000	— 8
Arkansas	198	160	— 18	32	20	864,831	697,000	— 19
California	2,078	1,505	— 28	232	15	8,599,049	6,358,000	— 26
Colorado	53	135	+155	20	15	323,492	824,000	+155
Florida	15	31	+107	29	94	98,395	203,000	+106
Illinois	1,778	1,675	— 6	470	28	4,617,690	4,329,000	— 6
Indiana	322	325	+ 1	90	28	515,551	523,000	+ 1
Kansas	1,683	1,760	+ 5	350	20	5,533,962	5,817,000	+ 5
Kentucky	651	750	+ 15	134	18	1,158,935	1,353,000	+ 17
Louisiana	1,081	1,118	+ 3	233	21	7,798,605	8,047,000	+ 3
North Louisiana	457	493	+ 8	98	20	2,097,495	2,280,000	+ 9
South Louisiana	624	625	0	135	22	5,701,110	5,767,000	+ 1
Michigan	761	606	— 20	253	42	1,970,173	1,577,000	— 20
Mississippi	368	350	— 5	168	48	2,440,887	2,348,000	— 4
Missouri	44	48	+ 9	40	83	50,064	51,000	+ 2
Montana	237	250	+ 5	37	15	589,175	625,000	+ 5
New Mexico	423	425	0	71	17	1,546,558	1,557,000	+ 1
New York	1,138	1,250	+ 10	10	1	1,590,168	1,746,000	+ 10
Ohio	1,021	1,000	— 2	85	9	2,581,679	2,558,000	— 1
Oklahoma	2,296	1,855	— 19	360	19	9,290,920	7,553,000	— 19
Pennsylvania	2,911	2,450	— 16	125	5	5,043,656	4,234,000	— 16
Tennessee	4	16	+300	12	75	8,630	65,000	+653
Texas	7,278	7,489	+ 3	1,570	21	32,696,651	33,596,000	+ 3
East Texas	391	563	+ 44	124	22	2,423,251	3,449,000	+ 42
North Texas	1,830	1,975	+ 8	400	20	4,565,272	4,888,000	+ 7
West Central Texas	471	480	+ 2	180	38	1,305,343	1,320,000	+ 1
West Texas	1,680	1,710	+ 2	240	14	8,306,354	8,379,000	+ 1
Texas Panhandle	561	413	— 26	20	5	1,776,791	1,280,000	— 28
Upper Gulf Coast	706	702	— 1	200	28	5,176,679	5,160,000	0
Lower Gulf Coast	1,070	1,059	— 1	215	20	6,821,771	6,778,000	— 1
Southwest Texas	474	490	+ 3	135	28	1,878,924	1,935,000	+ 3
South Central Texas	95	97	+ 2	56	58	442,266	407,000	— 8
West Virginia	768	725	— 6	70	9	2,091,114	1,950,000	— 7
Wyoming	193	236	+ 22	28	12	875,286	1,074,000	+ 23
Other States[2]	15	50	+233	41	82	49,746	166,000	+234
Total United States	25,354	24,241	— 4.39	4,480	+18.48	90,486,215	87,396,000	— 3.42

[1] Footage drilled in 1945 and footage forecast for 1946 include that for new wells seeking production and for input or disposal purposes, as well as footage of wells drilled deeper in 1945 and that footage expected to be added by drilling old wells deeper in 1946.

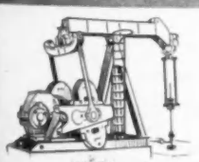
[2] Other states include: Arizona, Georgia, Iowa, Maryland, Nebraska, New Jersey, North Carolina, North Dakota, Oregon, South Carolina, South Dakota, Utah, Virginia and Washington.

LUFKIN

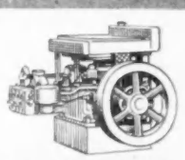
PUMPING UNITS

A TYPICAL LUFKIN INSTALLATION

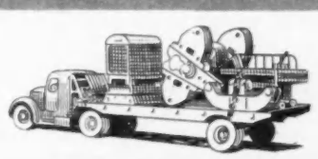
Lufkin units field tested and proven, will give you years of care-free, trouble-free service—many of the first Lufkin units built are still delivering the goods.



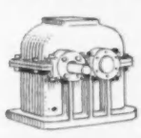
LUFKIN PUMPING UNITS



LUFKIN-COOPER-BESSEMER ENGINES



LUFKIN OIL FIELD AND INDUSTRIAL TRUCK TRAILERS



INDUSTRIAL SPEED REDUCERS AND INCREASERS

DIVISION LUFKIN FOUNDRY & MACHINE COMPANY INDUSTRIAL, MILL AND AUTOMOTIVE SUPPLIES

LUFKIN FOUNDRY & MACHINE COMPANY LUFKIN TEXAS

Artificial Lifting Equipment Requirements Larger in 1946

An estimated 13,055 wells will go on pump or lift, with most of them installing new units

A NEED during 1946 for 11,756 new pumping and air/gas lift units is forecast as a result of a survey conducted by THE OIL WEEKLY.

In making its estimate of the number of wells which probably will go on artificial lift during the current year, the survey:

(a) Considered the number of wells forecast in proven areas for each section;

(b) Figured the number of wells which actually went on artificial lift during 1945 (a procedure which is guided by well fixed formulae and, with rare exceptions, well authenticated data) and

(c) Took into consideration probable shifts of flowing wells into pumping or air/gas lift wells.

It has not always been possible to forecast such shifts with accuracy, hence THE OIL WEEKLY has never come as close to perfection on its estimates of wells to go on the pump as it has chalked up on its drilling forecasts.

There is a considerable difference between the number of wells going on artificial lift in a given year and the number of pumping units purchased. To begin with, some areas use pumping powers and replies from many companies indicate that the purchase of such powers this year likely will increase over last year.

Salvage Trend

The matter of salvaging pumping units from abandoned wells also is a factor. The survey calculated for each state the number of wells abandoned during the previous year and while much of the equipment is either completely worn out or so obsolete as to make it of little value, nevertheless pumping units frequently are moved from abandoned wells and put to work on new wells.

Indications are *there will be a great deal of such salvage this year* although prospective cutback in production may make more available than anticipated. Opposed to this is the replacement of equipment on live wells because it has worn out. But with proration, the life of pumping equipment has been extended materially.

Thus in the resultant table showing how many wells went on artificial lift last year and the forecast of the wells which will go on the pump in 1946, although there is indicated the number of new pumping units to be bought, this figure is given in full knowledge that it likely will be subject to more correction than any other in the table.

An estimate relating to maintenance costs of pumping wells also is shown in the table. This relates to equipment only and calculations per well are based on data furnished by oil companies and

Estimate of 1946 Pumping Equipment Needs

(Includes requirements for all types of pumping units and also air/gas lift units)

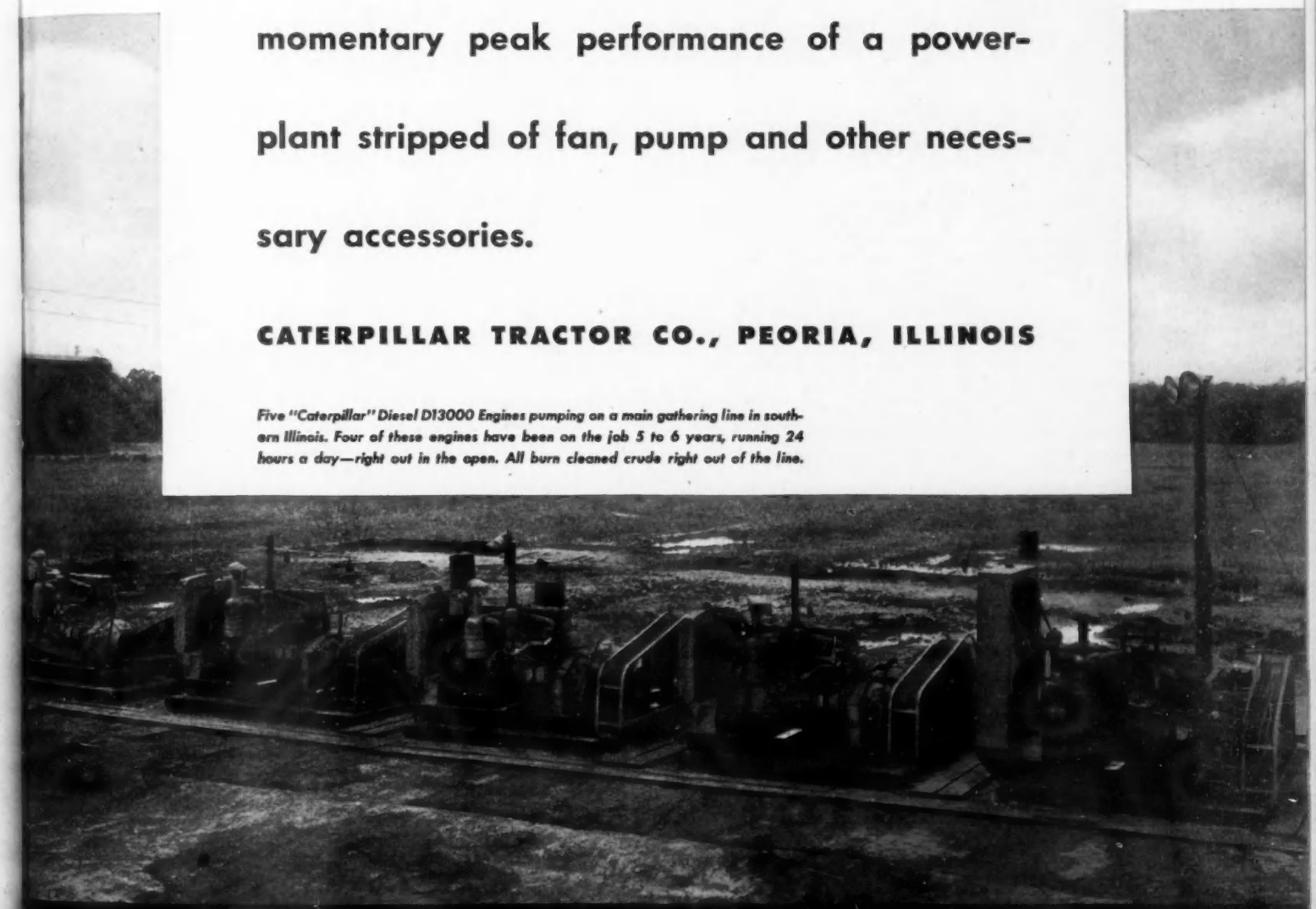
STATE OR DISTRICT	Oil Wells Completed In 1945	Wells Put On Pump Or Lift In 1945	Number Wells Likely to Go On Pump or Air/Gas Lift During 1946	Forecast of Number of New Pumping and Air/Gas Lift Units Needed During 1946[1]	Estimated Average Number Pumping Wells To be Maintained During 1946	Number of Flowing Wells End of 1945	Estimated Maintenance Cost. (Equipment Only for All Pumping Wells in 1946)
Alabama	14	14	12	12	33	0	$ 6,600
Arkansas	118	78	71	61	2,797	507	209,775
California	1,699	1,533	1,110	900	20,142	1,889	6,143,310
Colorado	39	0	35	35	191	70	15,000
Florida	1	1	1	1	3	0	1,800
Illinois	1,073	1,093	1,011	911	28,216	205	1,834,000
Indiana	118	118	116	114	2,437	0	121,850
Kansas	811	807	848	750	25,942	174	1,945,650
Kentucky	331	331	381	346	14,932	0	597,240
Louisiana	599	112	140	140	4,537	3,343	385,645
North Louisiana	213	80	60	60	3,519	840	299,115
South Louisiana	386	32	80	80	1,018	2,503	86,530
Michigan	291	241	212	92	3,280	300	254,175
Mississippi	191	50	62	59	455	32	36,400
Missouri	3	3	4	4	38	0	3,040
Montana	173	159	172	172	2,499	31	218,665
Nebraska	0	0	0	0	70	0	5,950
New Mexico	277	191	290	270	2,957	2,822	591,400
New York	723	723	794	700	22,022	0	440,440
Ohio	248	252	265	265	23,161	46	752,730
Oklahoma	1,370	923	1,086	986	51,855	1,337	4,148,400
Pennsylvania	1,400	1,400	1,178	1,000	83,829	0	1,467,000
Tennessee	0	0	4	4	27	0	540
Texas	4,025	3,987	4,982	4,678	67,523	37,857	8,940,415
East Texas	147	745	1,200	1,100	12,835	16,224	1,732,725
North Texas	967	1,217	1,322	1,300	18,997	1,392	1,329,790
West Texas	1,289	1,107	1,462	1,400	10,231	8,432	3,683,160
West Central Texas	199	125	210	190	6,500	560	422,500
Panhandle	179	161	132	115	5,926	47	592,600
Upper Gulf Coast	353	217	233	210	3,417	6,282	341,700
Lower Gulf Coast	645	275	270	230	1,723	3,681	172,300
Southwest Texas	220	115	120	100	4,800	1,174	480,000
South Central Texas	26	25	33	33	3,094	65	185,640
West Virginia	86	86	81	75	17,308	0	346,160
Wyoming	147	149	200	190	3,883	195	388,300
Total U. S.	13,737	12,251	13,055	11,756	378,137	48,808	$28,854,485

[1] Estimate of 1946 equipment needs makes allowance for use of salvaged or transferred lifting equipment, and therefore constitutes only the NEW pumping or air/gas lift units required during the year.

THE POWER THEY PROMISE IS THE POWER THEY DELIVER

The horsepower of "Caterpillar" Diesel Engines is ALL WORKPOWER. Ratings show maximum output of a fully equipped engine—not the momentary peak performance of a power-plant stripped of fan, pump and other necessary accessories.

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS



Five "Caterpillar" Diesel D13000 Engines pumping on a main gathering line in southern Illinois. Four of these engines have been on the job 5 to 6 years, running 24 hours a day—right out in the open. All burn cleaned crude right out of the line.

CATERPILLAR DIESEL ENGINES

REG. U.S. PAT. OFF.

TRACTORS • MOTOR GRADERS • EARTHMOVING EQUIPMENT

The discharged veteran wears this emblem. Remember his service and honor him.

manufacturers in various areas. Such maintenance costs include parts of prime movers and replacement of prime movers on old wells, rods and tubing replacement, working barrels, balls, seats, and belting but NOT workover costs.

Pumping By Fields

In some areas wells go on the pump quickly after being completed. Kansas, many of the fields of Oklahoma and the shallower areas of Texas, Illinois, the Eastern States, some of the Mountain states, etc. are examples. In others, notably South Louisiana, and many of the fields in the Texas Gulf Coast, wells flow for a long time before going on the pump. Some observers have been expecting for several years to see South Louisiana start a substantial shift to artificial lift, but every year it seems to be postponed. West Texas, with a heavy backlog of flowing wells, seems to have started the shift in a material manner. In North Texas the "breakover" is underway. In East Texas the break has come.

Drilling Forecast

■ CONTINUED FROM PAGE 124

enough to tell us what their plans are for this year. Observation of previous replies against actual drilling shows that while one company may change its plans, the overall picture is fairly accurate. However, against the plans of the oil companies we impose the reports of our own field editors who often offer a more accurate picture that that afforded by the oil company drilling plan. And, in addition, we seek the assistance of other well-posted authorities in the various areas, and consider the general situation, prospective demand for crude oil, lease expirations, probable or actual legislation affecting spacing, taxation, etc. For instance, in several of the active Southwestern states, the coming three years will bring heavy wildcat lease expirations. Oil companies must meet this situation. Some prefer to go ahead this year and get part of those obligations out of the way; others seem to be waiting till next year.

Material and Manpower Situation

"Until the steel strike occurred, the material situation was fast improving; in fact, little difficulty was being experienced in getting equipment and supplies. The labor situation was slowly improving with the return to work of former field men from the armed forces. Too, there was promise of reduction of down-time in moving rigs, and some contractors have reported an actual improvement.

Equipment Demand

"Sometime ago, in replying to a questionnaire addressed by THE OIL WEEKLY staff, oil companies said that their purchase of drilling and pumping equipment would be substantially higher than would be indicated by the number of wells drilled. Deeper drilling was anticipated and has been taken into consideration in forecasting footage figures. It is possible that the footage figures shown for 1946 may be exceeded. Certainly they are on the conservative side.

"No forecast of wells to be drilled deeper has been made this year, but footage from such wells has been taken into consideration in our footage column. Again it is possible that the year will see more than an ordinary amount of deeper drilling in some old fields."

THE OIL WEEKLY gratefully acknowledges its obligation and expresses its appreciation for the fine spirit of cooperation evidenced by oil companies, individual oil men, and persons associated with state and other governmental agencies, in compiling the accompanying table.

Daily Crude Production Increases To 4,508,000 Barrels in November

REVERSING a downward trend which set in after the end of the war, daily average production of domestic crude increased in November to 4,508,000 barrels from 4,277,000 barrels in October, it was reported last week by the Bureau of Mines.

Most of the increase came from Texas, up 179,000 barrels; Oklahoma, up 23,000 barrels, and Louisiana, up 11,000 barrels. Oklahoma production was at the highest level since June, 1942, while Louisiana established a new record.

Completions Up

Well completions during the month totaled 1156, an increase of 67 over October and 17 over November, 1944. Completions and initial production gained sharply in Oklahoma, Louisiana and Illinois, but declined in Texas and California, it was shown.

The bureau reported an average demand for domestic crude of 4,581,000 barrels daily in November, 368,000 barrels above the preceding month, necessitating the withdrawal of 73,000 barrels daily from domestic crude stocks. Total stocks, domestic and foreign, declined from 225,852,000 to 223,526,000 barrels during the month.

Crude runs to stills averaged 4,624,000 barrels daily during the month, an increase of 380,000 barrels over October, representing an effort to make up in part for refinery shutdowns in September and October, the bureau stated. Total stocks of refined products gained about 6,200,000 barrels during the month, to 239,277,000 barrels November 30, finished gasoline stocks increasing about 10 million barrels while residual fuel oil inventories dropped 800,000 barrels, distillate fuel oil 900,000 barrels, and kerosine 600,000 barrels. Total demand for motor fuel was placed at 56,600,000 barrels, compared with 58,200,000 barrels in October.

The bureau's supply and demand statement showed the production in November of 135,252,000 barrels of domestic crude, against 132,597,000 barrels in October; 9,234,000 barrels of natural gasoline against 9,027,000 barrels and 240,000 barrels of benzol, unchanged, a total of 144,726,000 barrels against 141,864,000 barrels. Imports included 7,395,000 barrels of crude against 7,347,000 barrels, and 4,359,000 barrels of refined products against 2,941,000 barrels.

Export Gains

Exports of crude were 3,399,000 barrels against 3,603,000 barrels in October, and of refined products 7,736,000 barrels against 7,070,000 barrels, with domestic demand for motor fuel, 53,581,000 barrels against 55,743,000 barrels; kerosine, 7,613,000 barrels against 6,775,000 barrels; distillate fuel oil, 42,713,000 barrels against 40,627,000 barrels; lubricating oil, 2,532,000 barrels against 2,577,000 barrels; wax, 183,000 barrels against 163,000 barrels; coke (equivalent), 621,000 barrels against 624,000 barrels; asphalt, 2,926,000 barrels against 3,595,000 barrels; road oil, 87,000 barrels against 343,000 barrels; still gas, 7,618,000 barrels against 7,006,000 barrels; miscellaneous, 3,040,000 barrels against 2,774,000 barrels, and losses, 1,074,000 barrels against 1,717,000 barrels.

Stocks November 30 included 218,916,000 barrels of gasoline-bearing crude against 221,246,000 barrels October 31; 4,610,000 barrels of heavy crude in California against 4,606,000 barrels; 4,325,000 barrels of natural gasoline against 3,959,000 barrels, and 239,277,000 barrels of refined products against 233,062,000 barrels; the totals, 467,128,000 barrels against 462,873,000 barrels, representing 92 and 96 days' supply, respectively.

The Bureau of Labor Statistics' price index for petroleum and products was 61.7 for November compared with 62.1 for October and 63.8 for November, 1944. The crude capacity represented in the report was 5,035,000 barrels, indicating an operating ratio of 92 percent against 84 percent in October and 94 percent in November, 1944.

Tanker Fleet Shows Big Increase During the War

Despite all losses the United States tanker fleet increased during the war from 217 ships totalling 2,530,000 deadweight tons to 763 ships totalling 11,406,000 tons, an increase of 250 percent in number of ships and 350 percent in tonnage.

At the start of the European war, tankers of the United Nations averaged 10,000 deadweight tons each, but by the end of the war they averaged 12,500 tons. Operating cost of the larger ships on a per barrel basis is considerably below that of most prewar tankers.

Despite the fleet's growth, tanker space during the war was critical until V-E Day and if the Pacific war had continued, it soon would have been critical again.

At the war's end, these was an abundance of tankers and it appears inevitable that many of the older ships will be retired from service.

API Session Set

The Division of Production of the American Petroleum Institute will hold its Eastern District spring meeting in Pittsburgh on June 13 and 14, with Virgil F. Bowyer of Pittsburgh, chairman of arrangements. Headquarters will be the William Penn Hotel.

ROOFE SWIVEL JOINT

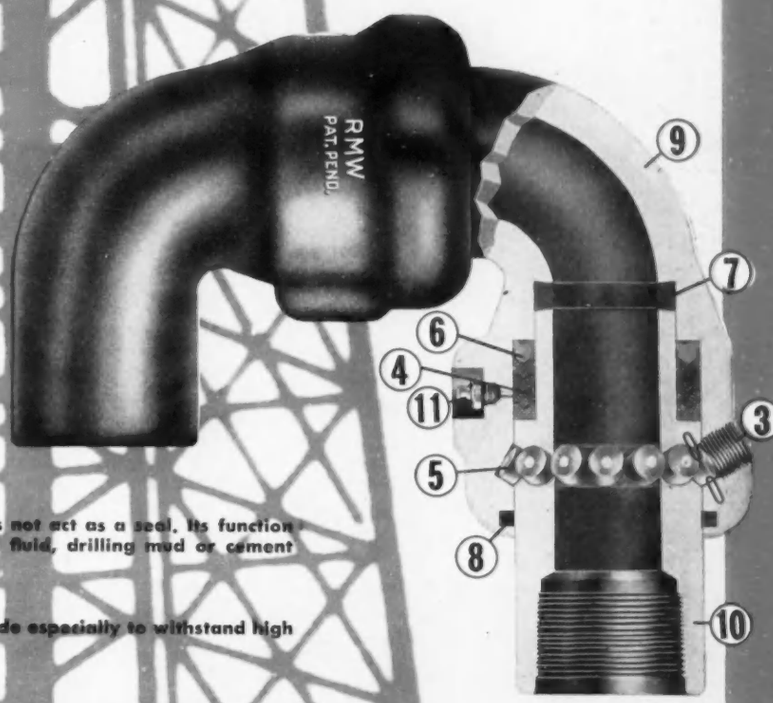
High Pressure with Safety

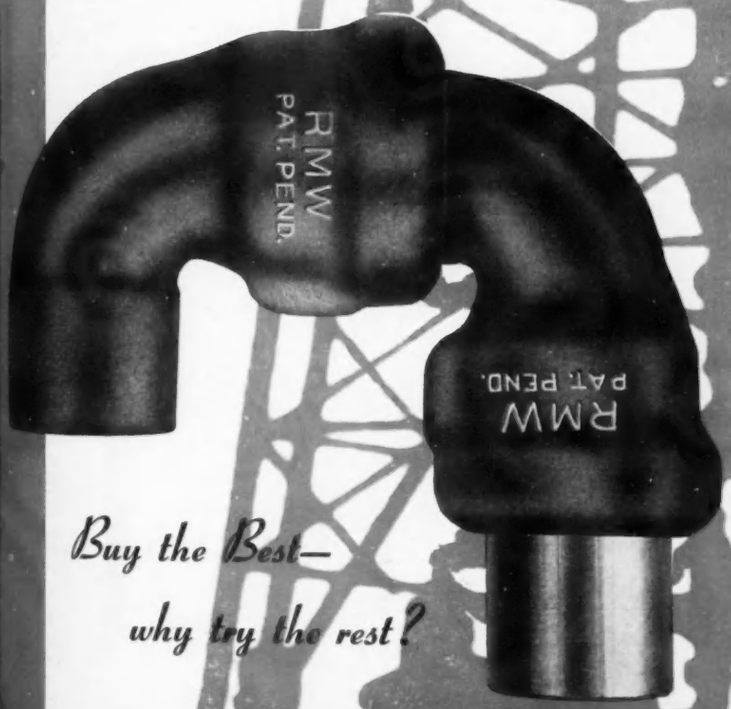
Roofe swivel joint is of the high pressure type; 15,000 Lb. Test; 10,000 Lb. working pressure, on the 2" size.

Its simple design makes repair or replacement of parts easy. No special tools are necessary in order to make repairs or replacement and almost anyone can take the joint apart or reassemble it.

The outstanding features of Roofe Swivel Joint are as follows:

1. Roofe Swivel Joint will rotate easily by hand at 7,500 Lbs. working pressure.
2. The inside member rotates 360 degrees.
3. Has a removable loading plug.
4. Four rings of Neoprene High Pressure, High Temperature Chevron Type Packing.
5. Roller Bearings are flat with the outside end slightly oval for clearance in the roller race. The thrust on roller at points indicated by O.
6. Special designed junk ring. Lubricant around the ring automatically lifts the lips of the packing the instant the pressure is applied. This feature prevents, to a minimum, the possibility of leakage.
7. Neoprene gasket or separator between parts 9 and 10 does not act as a seal. Its function is to resist the abrasion caused from the turbulence of the fluid, drilling mud or cement passing through the joint at this point.
8. Felt grease seal.
9. The body is of the highest grade alloy steel available and made especially to withstand high working pressure; roller races, flame hardened.
10. Inside member alloy steel, flame hardened.
11. Grease fitting. Alemite or Zerk.





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Well Completions Highest Since Prewar

FOR the second consecutive year, the United States completed substantially more wells than in the preceding year. Completions during 1945 rose 7.7 percent over the 1944 figures, and 32 percent over the wartime low that prevailed during 1943.

The actual number of wells completed in the United States during 1945 amounted to 25,846, when input, disposal and old wells deepened are included. This was 1391 more than the corresponding figure of 24,455 completions in 1944, which included 53 weeks instead of the usual 52 weeks, and was 6601 more than the 19,245 tests completed during 1943.

Even this sharp growth did not restore the nation's drilling rate to prewar levels. The industry drilled an average of 30,000 wells annually during the six years preceding the United States entry into war, and had completed 32,310 tests during 1941, the last prewar year.

The outlook for the industry to complete a more normal number of wells is not encouraging, despite termination of the war. Prospects are that 1946 drilling will approximate that of 1945. The outlook for drilling in 1946 is discussed in detail in THE OIL WEEKLY's annual forecast of probable completion rates, which appears on page 124 of this issue.

One third more wells completed during 1945 than in lowest year of war, but drilling rate still far beneath normal levels.

The industry's total of 25,846 completions in 1945 was made up to 23,601 new wells drilled in search for oil or gas production. The remaining 2245 completions consisted of 492 old wells drilled deeper and 1753 that were drilled as input or disposal wells.

The 23,601 tests drilled for oil and gas represented a sharper increase than occurred in total completions. Whereas total wells completed were 7.7 percent greater than in 1944, the number that sought oil or gas was up 8.3 percent.

The 23,601 tests drilled in search of oil or gas resulted in the completion of 16,375 that were productive of oil, gas or distillate. Thus, 69.4 percent of the wells drilled found production of some sort, as compared with a flat 69 percent in 1944. By products obtained, the producing completions were divided as follows: 13,738 oil wells, 2484 gas wells and 153 distillate wells. The number of productive completions compared with 15,456 in 1944, representing a gain of 8 percent.

The 1753 input and disposal wells completed in 1945 compared with 1873 in 1944, and thus were the only type of completions to register a decrease during the year. This group was made up of 1663 water input wells compared with 1784 in the preceding year, 46 gas input wells against 38, and 44 salt water dis-

Wells Completed Annually in United States

YEAR	NEW WELLS: FOR OIL OR GAS: Oil	Gas	Distillate	Total Productive Wells	Dry Holes	Total New For Oil or Gas	OTHER NEW WELLS: Water Input	Gas Input	Salt Water Disposal	Total New Wells	Old Wells Drilled Deeper	Total Completions
1859-1917	[3]386,694	[1]3,769	....	390,463	89,493	479,956	.....	....	.....	479,956	.....	479,956
1918	17,845	2,229	....	20,074	5,613	25,687	.....	....	.....	25,687	.....	25,687
1919	21,052	2,135	....	23,187	5,986	29,173	.....	....	.....	29,173	.....	29,173
1920	24,273	2,274	....	26,547	7,364	33,911	.....	....	.....	33,911	.....	33,911
1921	14,666	2,111	....	16,777	5,160	21,937	.....	....	.....	21,937	.....	21,937
1922	17,333	2,024	....	19,357	5,332	24,689	.....	....	.....	24,689	.....	24,689
1923	13,407	1,892	....	15,299	5,214	20,513	.....	....	.....	20,513	.....	20,513
1924	14,311	2,250	....	16,561	5,152	21,713	.....	....	.....	21,713	.....	21,713
1925	16,162	2,644	....	18,806	6,600	25,406	.....	....	.....	25,406	.....	25,406
1926	17,787	2,848	....	20,635	8,360	28,995	.....	....	.....	28,995	.....	28,995
1927	13,396	2,586	....	15,982	6,319	22,301	.....	....	.....	22,301	.....	22,301
1928	10,982	2,733	....	13,715	6,249	19,964	.....	....	.....	19,964	.....	19,964
1929	13,215	3,109	....	16,234	7,229	23,463	.....	....	.....	23,463	.....	23,463
[2]1930	10,745	3,006	....	13,751	6,097	19,848	.....	....	.....	19,848	.....	19,848
1931	6,618	2,090	....	8,708	3,008	11,716	.....	....	.....	11,716	.....	11,716
1932	10,151	1,012	....	11,163	3,127	14,290	954	....	.....	14,290	.....	14,290
1933	7,828	994	....	8,822	3,369	12,191	1,696	....	.....	13,145	.....	13,145
1934	13,066	1,353	....	14,419	4,678	19,097	1,665	....	.....	20,793	.....	20,793
1935	15,301	1,719	....	17,020	5,558	22,608	.....	....	.....	24,273	.....	24,273
1936	18,432	2,323	....	20,755	5,695	26,450	2,096	....	.....	28,546	.....	28,546
1937	22,481	2,500	....	24,981	6,730	31,351	2,594	....	.....	33,945	.....	33,945
1938	18,544	1,913	....	20,457	6,133	26,590	1,470	....	.....	28,060	.....	28,060
1939	17,687	1,943	....	19,630	6,670	26,300	1,358	....	.....	27,658	.....	27,658
1940	19,225	2,023	....	21,248	6,770	28,018	1,988	....	.....	30,006	650	30,656
1941	19,472	2,582	....	22,054	6,984	29,038	2,185	117	47	31,387	823	32,210
1942	10,942	1,875	105	12,922	5,684	18,606	2,141	72	47	20,866	588	21,454
1943	9,541	1,540	75	11,156	5,952	17,108	1,589	78	42	18,817	428	19,245
1944	13,095	2,302	59	15,456	6,751	22,207	1,784	38	51	24,080	375	24,455
1945	13,737	2,487	147	16,371	7,231	23,602	1,664	46	43	25,355	492	25,847
Total	[3]807,898	[3]64,266	386	872,550	254,178	1,126,728	23,184	351	230	1,150,493	3,356	1,153,849

[1] Gas wells during the period to 1916 were included with oil wells.
[2] Includes gas wells completed prior to 1916.
[3] Includes only gas wells completed since 1916.
Source: U. S. Bureau of Mines, 1859-1922. Weekly reports of The Oil Weekly, 1923-1944.

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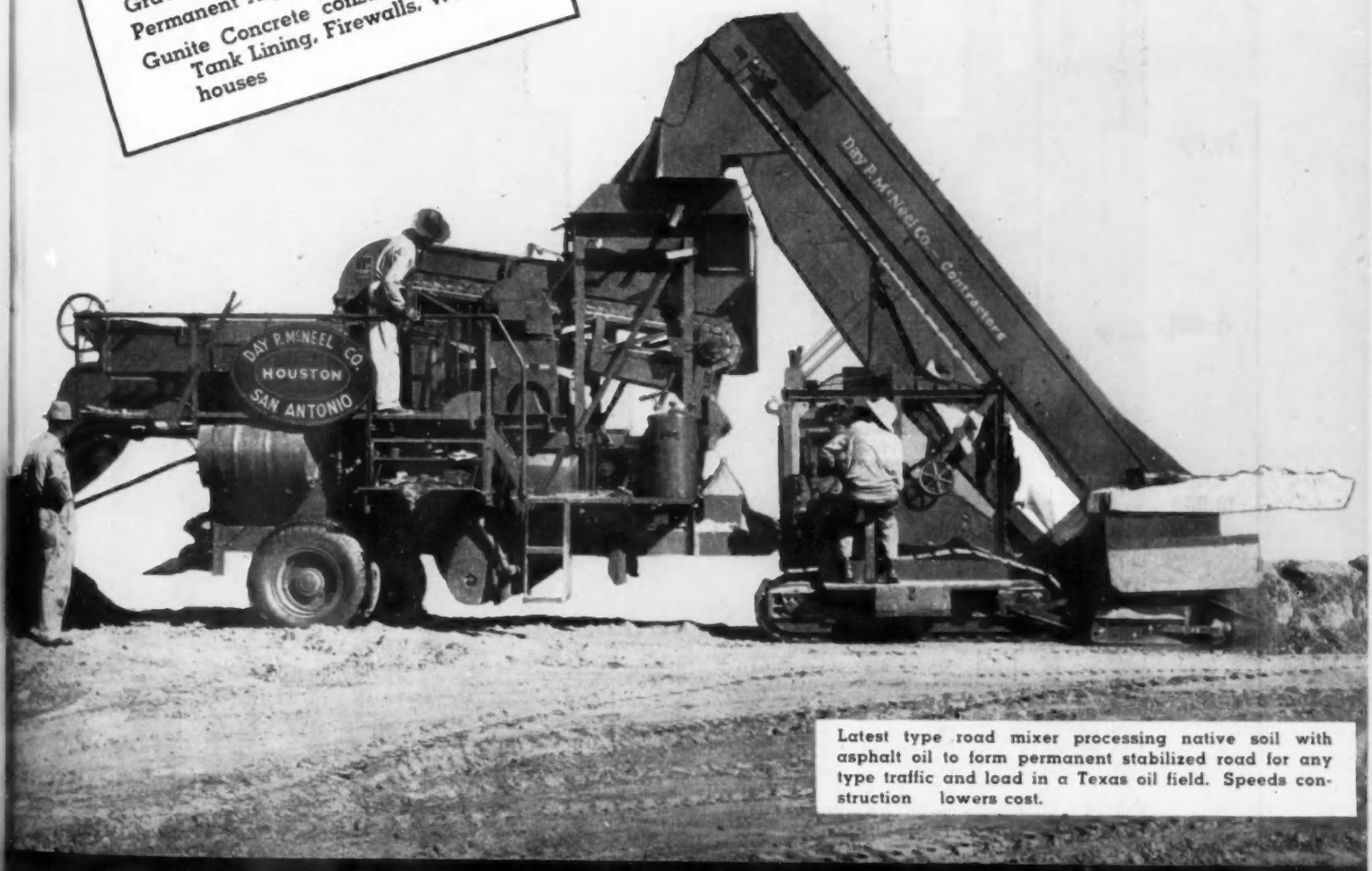

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posal wells in contrast with 51 in 1944.

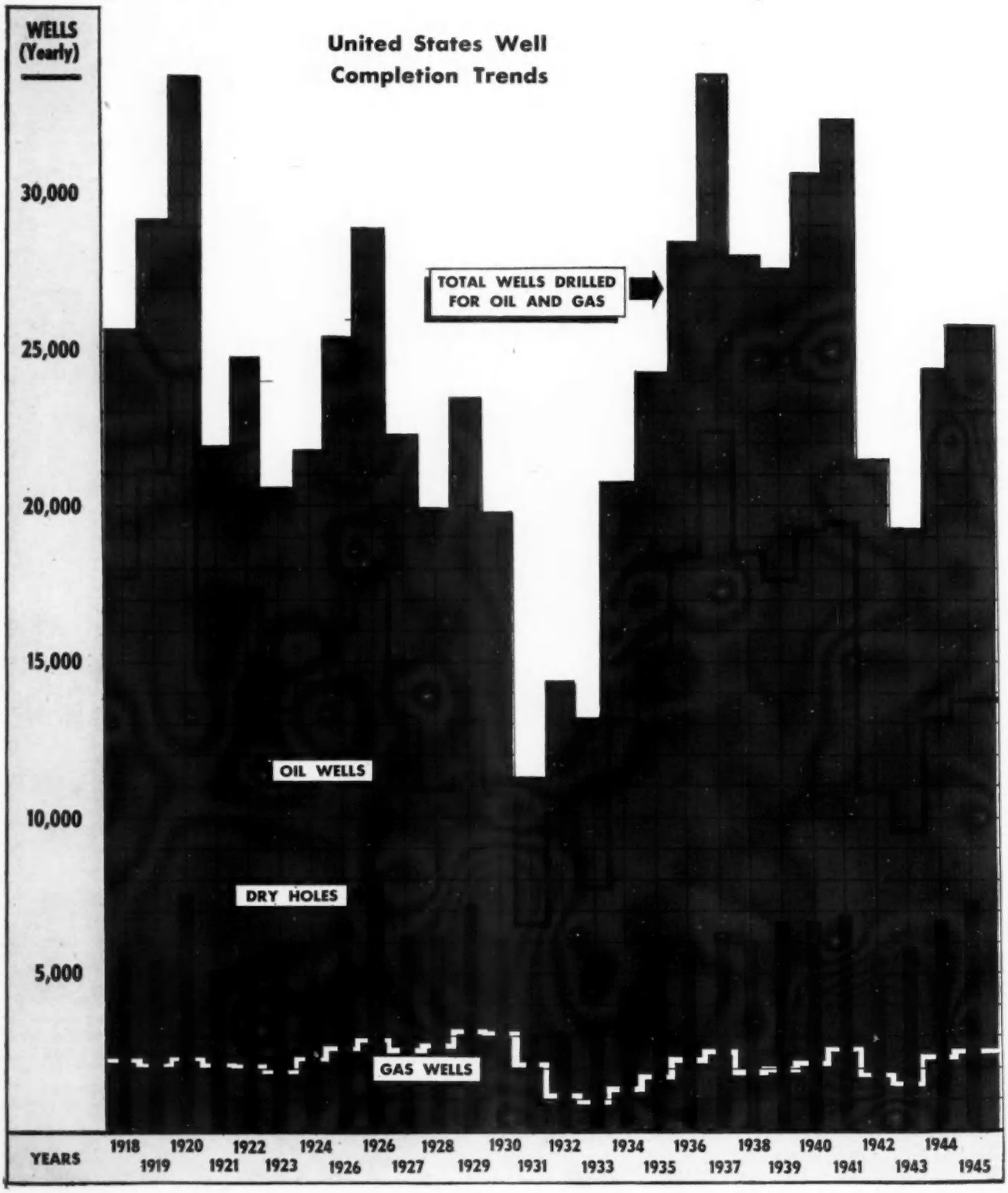
Texas continued to lead all states in wells completed, accounting for 29 percent of the nation's completions, and also had one of the greatest increases over 1944. This state completed a total of 7409 wells, a gain of 21.1 percent over the 6235 completed within its boundaries during 1944.

Pennsylvania was the second most active state, although completing fewer wells than in 1944. The state had 2929 completions in contrast with 3060 in the preceding year. Water input wells accounted for 1227, or close to ½ of Pennsylvania's drilling.

Breakdown of wells completed in 1945 and 1944 by states on page 133.

Oklahoma climbed from fifth to third position in rate of drilling activity. Due principally to completion of a large number of wells in the West Edmond field, the state completed 2351 operations, an increase of 26.7 percent over the 1891 tests completed during 1944.

Among the states to show an exceptionally sharp increase were Colorado, Florida and Mississippi. Colorado finished 53 tests compared with 30, a gain of 80.1 percent, due largely to activity in the important Rangely field. Florida's entry into the producing group of states during 1944 spurred its search for oil, and completions rose from seven to 15. Mississippi climbed from 213 in 1944 to 369 completions in 1945, a gain of 76.6 percent.



Wells Completed by Oil Industry in United States in 1945, Compared with 1944

Figures for 1945 cover 52 weeks, ended December 29; those for 1944 covered 53 weeks, ended December 30 (one more week than normal)

STATE OR DISTRICT	NEW WELLS DRILLED FOR OIL OR GAS — PRODUCTIVE: In Fields Outposts and Wildcats; Oil		Gas		Distillate		Total Productive		% Diff. Wkly.Av.	DRY HOLES — In Fields		Outposts		Wildcats		Total Dry		% Diff. Wkly.Av.	Total New For Oil or Gas		% Diff. Wkly.Av.
	1944	1945	1944	1945	1944	1945	1944	1945		1944	1945	1944	1945	1944	1945	1944	1945		1944	1945	
Alabama	11	14		1			11	15	+ 39.0	4	2	2		21	21	27	23	— 13.2	38	38	+ 1.9
Arizona														6		6			6		
Arkansas	135	118	7	5	2	2	144	125	— 11.8	20	31	1	1	66	41	87	73	— 14.6	231	198	— 12.6
California	1,673	1,699	37	45		2	1,710	1,746	+ 4.1	15	50	1	2	251	280	267	332	+ 26.6	1,977	2,078	+ 7.1
Colorado	19	39	1	3			20	42	+114.0	1				9	11	10	11	+ 12.1	30	53	+ 80.0
Florida		1						1			1			7	13	7	14	+103.8	7	15	+118.4
Georgia														8	6	8	6	— 23.5	8	6	— 23.5
Illinois	1,220	1,073	7				1,227	1,073	— 10.9	390	302			368	386	758	688	— 7.5	1,985	1,761	— 9.6
Indiana	148	118	23	28			171	146	— 13.0	85	89			70	87	155	176	+ 15.8	326	322	+ 0.7
Iowa														2	1	2	1	— 49.1	2	1	— 49.1
Kansas	857	811	75	181			932	992	+ 8.5	303	361	6		439	317	748	678	— 7.6	1,680	1,670	+ 1.3
Kentucky	394	331	104	77			498	408	— 16.5	290	152			120	90	310	242	— 20.5	808	650	— 18.0
Louisiana	412	599	65	82	15	46	492	727	+ 50.6	150	217	16	3	110	132	276	352	+ 29.9	768	1,079	+ 43.2
North Louisiana	97	213	53	70	10	13	160	296	+ 88.4	42	76	12	2	69	82	123	160	+ 32.8	283	456	+ 64.2
South Louisiana	315	386	12	12	5	33	332	431	+ 32.4	108	141	4	1	41	50	153	192	+ 27.7	485	623	+ 30.9
Michigan	265	291	59	49			324	340	+ 7.0	144	176	2	9	213	234	2359	419	+ 19.1	683	759	+ 13.3
Mississippi	112	191	4	3	1	8	117	202	+ 75.6	9	45	11		75	121	95	166	+ 78.2	212	368	+ 77.0
Missouri	24	4	7	10			31	14	— 54.0	9	10			11	20	20	30	+ 52.9	51	44	— 12.1
Montana	199	173	23	17			222	190	— 12.9	64	29	3		37	16	104	45	— 55.6	326	235	— 26.5
Nebraska	4						4			2	1			11	4	13	5	— 60.8	17	5	— 70.0
New Mexico	277	277	15	15			292	292	+ 2.0	64	65		1	60	65	124	131	+ 7.7	416	423	+ 3.6
New York	788	723	2	3			790	726	— 6.4	13	4					13	4	— 68.6	803	730	— 7.3
North Carolina															1		1			1	
Ohio	210	248	423	352			633	600	— 3.4	300	349			76	66	376	415	+ 12.6	1,009	1,015	+ 2.5
Oklahoma	1,106	1,370	135	125	2	2	1,243	1,497	+ 22.8	320	464	3		241	299	564	763	+ 37.9	1,807	2,260	+ 27.5
Pennsylvania	1,410	1,400	306	232			1,716	1,632	— 3.1	75	52					75	52	— 29.6	1,791	1,684	— 4.2
South Dakota															1		1			1	
Tennessee	2		1				3			2				4	4	6	4	— 32.1	9	4	— 54.7
Texas	3,598	4,025	251	699	34	93	3,883	4,817	+ 26.4	962	1,203	23	17	1,200	1,203	2,185	2,427	+ 13.0	6,068	7,240	+ 21.6
East Texas Border Co.'s	5	2	12	92	3	10	20	104	+429.9	1	5			14	19	15	24	+ 63.1	35	128	+272.7
Rest of Eastern Texas	123	145	10	13	7	3	140	161	+ 17.4	30	34	1	2	107	66	138	102	— 24.6	278	263	— 3.6
North Texas	692	967	8	15	1		701	982	+ 42.7	364	507		2	287	305	651	814	+ 27.4	1,352	1,796	+ 35.4
West Central Texas	162	199	9	48			171	247	+ 47.1	108	101	2		117	123	227	224	+ 0.7	398	471	+ 20.6
West Texas	1,306	1,289	14	24			1,320	1,313	+ 1.4	94	167	6	8	171	192	271	367	+ 38.2	1,591	1,680	+ 7.6
Texas Panhandle	236	179	51	341			287	520	+ 84.5	36	32			6	9	42	41	— 0.5	329	561	+ 73.8
Gulf Coast, Upper	308	353	48	43	12	41	358	437	+ 24.4	99	124	4	3	130	141	233	268	+ 17.0	601	705	+ 19.6
Gulf Coast, Lower	545	645	76	88	8	37	629	770	+ 24.8	121	120	7		167	178	295	298	+ 2.9	924	1,068	+ 17.8
Southwest Texas	191	220	22	32	2	2	215	254	+ 20.2	96	101	3	1	142	118	241	220	— 7.0	456	474	+ 6.0
South Central Texas	30	26	1	3	1		32	29	— 7.6	13	12		1	59	52	72	65	— 8.1	104	94	— 7.7
Utah														1		1			1		
Washington													1			1				1	
West Virginia	89	86	755	552			844	638	— 22.9	127	129			2		129	129	+ 2.1	973	767	— 19.7
Wyoming	142	147	2	5	5		149	152	+ 3.9	4	14	5	3	17	24	26	41	+ 61.2	175	193	+ 12.4
Total United States	13,095	13,738	2,302	2,484	59	153	15,456	16,375	+ 8.0	3,253	3,746	73	36	3,425	3,444	6,751	7,226	+ 9.1	22,207	23,601	+ 8.3

CONTINUED FROM ABOVE

STATE OR DISTRICT	OTHER NEW WELLS — Water Input		Gas Input		Salt Water Disposal		TOTAL NEW WELLS		% Diff. Wkly.Av	OLD WELLS DRILLED DEEPER — Oil		Gas		Dry		Total		% Diff. Wkly.Av.	TOTAL ALL WELLS		% Diff. Wkly.Av.
	1944	1945	1944	1945	1944	1945	1944	1945		1944	1945	1944	1945	1944	1945	1944	1945		1944	1945	
Alabama							38	38	+ 1.9										38	38	+ 1.9
Arizona							6												6		
Arkansas							231	198	— 12.6		2			2		2	2	+ 2.1	233	200	— 12.5
California							1,977	2,078	+ 7.1	63	11			3	1	66	12	— 81.6	2,043	2,090	+ 4.3
Colorado							30	53	+ 80.1										30	53	+ 80.1
Florida							7	15	+118.4										7	15	+118.4
Georgia							8	6	— 23.5										8	6	— 23.5
Illinois	1	2	5	1	5	14	1,996	1,778	— 9.2	67	118			3	12	70	130	+ 89.4	2,066	1,908	— 5.9
Indiana							326	322	+ 0.7	3	7	1	1	5	2	9	10	+ 13.3	335	332	+ 0.9
Iowa							2	1	— 49.1										2	1	— 49.1
Kansas	3				23	13	1,706	1,683	+ 0.6	12	40			7	34	19	74	+294.4	1,725	1,757	+ 3.8
Kentucky	3	1			1		812	651	— 18.3	9	5			5	2	14	7	— 49.1	826	658	— 18.8
Louisiana		1	4			1	772	1,081	+ 42.7	4	4			2	2	6	6	+ 1.1	778	1,087	+ 42.4
North Louisiana			1			1	284	457	+ 64.0		1			2	1	2	2	+ 2.1	286	459	+ 63.5
South Louisiana		1	3				488	624	+ 30.3	4	3				1	4	4	+ 1.9	492	628	+ 30.2
Michigan				2			683	761	+ 13.5		1			5	1	5	2	— 59.2	688	763	+ 13.0
Mississippi					1		213	368	+ 76.1		1						1		213	369	+ 76.6
Missouri	10						61	44	— 26.1						4		4		61	48	— 20.0
Montana	9					2	335	237	— 27.8		1						1		335	238	— 27.5
Nebraska							17	5	— 70.0					1		1			18	5	— 71.7
New Mexico							416	423	+ 3.6	2	1			4	1	6	2	— 66.0	422	425	+ 2.6
New York	446	408					1,249	1,138	— 7.2										1,249	1,138	— 7.2
North Carolina								1												1	
Ohio	12	5		1	2		1,023	1,021	+ 1.7	1					2	1	2	+103.7	1,023	1,023	+ 1.9
Oklahoma	19	5	20	22	15	9	1,861	2,296	+ 25.7	20	36	3	5	7	14	30	55	+ 86.0	1,891	2,351	+ 26.7
Pennsylvania	1,268	1,227					3,059	2,911	— 3.0	1	1		16		1	1	18	+731.7	3,060	2,929	— 2.4
South Dakota								1												1	
Tennessee							9	4	— 54.7										9	4	— 54.7
Texas	12	14	9	19	4	5	6,093	7,278	+ 21.7	96	95	3	7	43	29	142	131	— 6.0	6,235	7,409	+ 21.1
East Texas Border Co.'s							35	128	+272.7										35	128	+272.7
East Texas Field					1		1							3		3			4		
Rest of Eastern Texas							278	263	— 3.6		3			2	2	2	5	+155.2	280	268	— 2.5
North Texas	12	13	6	17	3	4	1,373	1,830	+ 35.8	24	12			18	8	42	20	— 51.9	1,415	1,850	+ 33.3
West Central Texas			2				400	471	+ 20.0	13	5	2	2	4	4	19	11	— 41.7	419	482	+ 17.2
West Texas							1,591	1,680	+ 7.6	45	42			12	10	57	52	— 7.4	1,648	1,732	+ 7.1
Texas Panhandle							329	561	+ 73.8	2	22		2	1	3	3	27	+817.3	332	588	+ 80.7
Gulf Coast, Upper		1	1				602	706	+ 19.5	9	5	1	1		1	10	7	— 28.7	612	713	+ 18.7
Gulf Coast, Lower				2			924	1,070	+ 18.1	2	4		2	1	1	3	7	+137.8	927	1,077	+ 18.4
Southwest Texas							456	474	+ 6.0	1	2			1		2	2	+ 2.1	458	476	+ 5.9
South Central Texas						1	104	95	— 6.6					1		1			105	95	— 7.6
Utah							1												1		
Washington								1												1	
West Virginia				1			973	768	— 19.6		3	2	30		2	2	35	+685.4	975	803	— 16.1
Wyoming	1						176	193	+ 11.7	1						1			177	193	+ 11.1
Total United States	1,784	1,663	38	46	51	44	24,080	25,354	+ 7.3	279	326	9	59	87	107	375	492	+ 33.6	24,455	25,846	+ 7.7

Footage Drilled Near Prewar Levels

FOOTAGE INCREASED SHARPLY AS AVERAGE WELL DEPTH GREATER THAN EVER BEFORE

COMPLETIONS during 1945 were drilled to the greatest average depth in history. This factor, coupled with a gain in number of tests completed, stepped up the amount of footage drilled to the highest rate since the war began and to near normal volumes.

During the past year 90,486,216 feet of hole were drilled (in wells completed) as compared with 81,847,198 feet in 1944, and to the wartime low of 58,706,986 feet in 1943. The 1945 rate was near to prewar rates, comparing with 95,452,534 feet in 1941 and 93,871,162 feet in 1940.

The sharp gain in footage drilled is partly explained by the greater number of wells completed, but the record average depth also was a very substantial contributing factor. The average depth in 1944 established an all-time high of 314 feet per well, but even this figure was surmounted by last year's record of 3501 feet per well, indicating a trend toward deeper drilling in coming years.

Colorado showed the greatest increase in depths as figures rose from 5025 feet per average well in 1944 to 6104 feet per average well in 1945. Last year's averages came from a total of 323,492 feet drilled in that state.

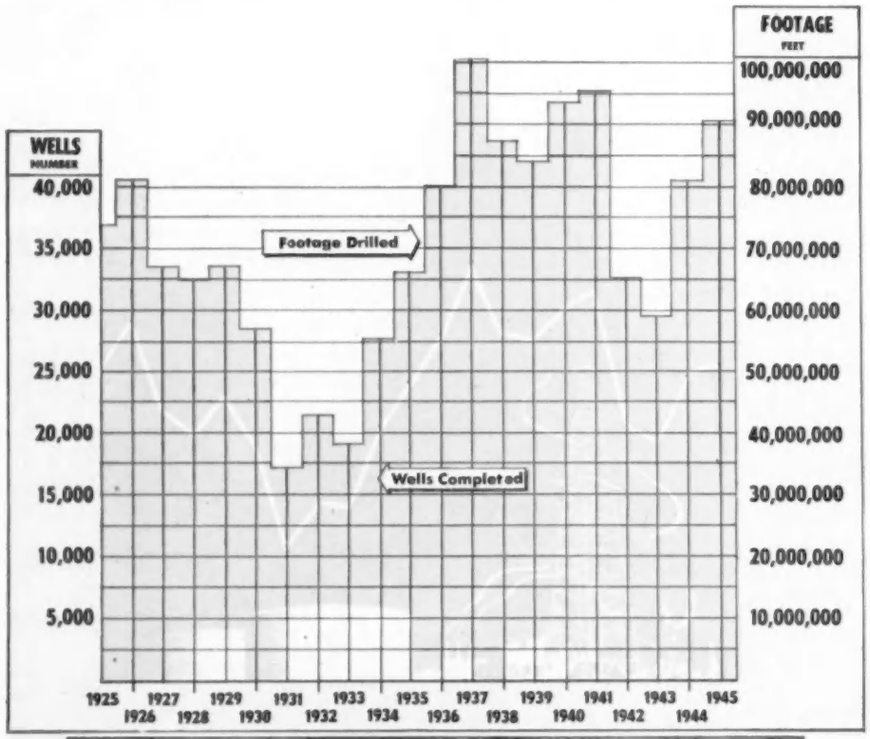
California's average rose from 3572 feet per well in 1944 to 4114 feet per well last year. Although the total number of well drilled for 1945 remained almost the same as the previous year, total footage drilled jumped from 7,298,224 feet in 1944 to 8,599,045 feet in 1945 totals.

The greatest average depth per well for any one region in the U. S. was recorded last year by Southern Louisiana with the average of 9078 feet per well. The average for Texas, the most heavily drilled state in the nation, remained practically the same as those for the previous year with an average of 4413 feet per well.

Texas kept the lead with 32,696,651 feet of hole drilled in 1945. This footage was sunk into 7409 wells as compared with 6235 drilled in the preceding year, when 27,721,739 feet were drilled. Oklahoma exceeded other states for second place with 9,290,920 feet in 1945, an increase of 2,219,746 feet over the previous year's total of 7,071,174 feet. New wells in this state rose to 2351 in 1945 from 1891 in 1944.

Of the 25,846 new wells drilled in the U. S. during 1945, 13,738 were oil wells which required 50,998,807 feet of hole or an average of 3709 feet per well. Of the total, 2484 were gas wells with a total footage of 7,985,028 feet. The number of dry holes increased from 6747 in 1944 to 7226 in 1945 and contributed 27,289,164 feet to the nation's total footage. When added, the footage represented in 153 distillate wells, 46 gas injection wells, 1663 water injection wells, and 44 water disposal wells totalled 4,079,028 feet which influenced the footage drilled last year.

United States Annual Drilling Footage Trend



YEAR	Wells Completed	Footage Drilled	Average Depth per Well	YEAR	Wells Completed	Footage Drilled	Average Depth per Well
1925	25,406	73,677,400	2900	1935	24,273	66,632,035	2745
1926	28,995	81,186,000	2800	1936	28,546	80,068,851	2805
1927	22,301	66,903,000	3000	1937	33,945	101,105,230	2979
1928	19,964	59,892,000	3000	1938	28,060	87,841,493	3131
1929	23,463	67,925,285	2895	1939	27,658	84,114,990	3037
1930	19,848	57,557,200	2900	1940	30,656	93,971,162	3065
1931	11,716	34,259,110	2924	1941	32,210	95,452,534	2963
1932	14,290	43,033,422	3011	1942	21,454	65,179,338	3038
1933	13,145	38,464,500	2926	1943	19,245	58,706,985	3051
1934	20,793	55,103,538	2650	1944	24,451	81,847,198	3347
				1945	25,846	90,486,215	3501

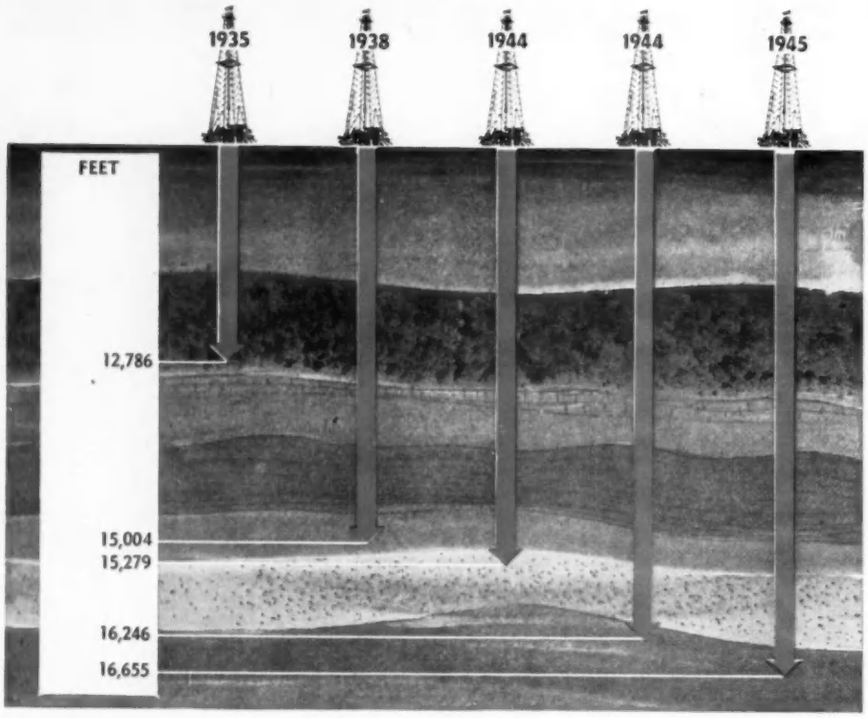
Footage and Average Depths Drilled in United States in 1945 and 1944 by states appear on opposite page.

Footage and Average Depths Drilled in All Wells in the United States in 1945

STATE OR DISTRICT	OIL			GAS			DISTILLATE			DRY (All Except Old Wells Drilled Deeper)			WATER INPUT			GAS INPUT		
	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth
Alabama	14	47,287	3378	1	2,004	2004				23	101,797	4426						
Arizona																		
Arkansas	118	496,567	4208	5	16,524	3305	2	17,343	8672	73	334,217	4578						
California	1699	6,780,816	3991	45	236,234	5250	2	21,849	10925	332	1,553,499	4679						
Colorado	39	245,719	6300	3	13,199	4399				11	64,574	5870						
Florida	1	11,549	11549							14	86,846	6203						
Georgia										6	19,502	3250						
Illinois	1073	2,782,634	2593							688	1,784,328	2594	2	987	494	1	436	436
Indiana	118	187,013	1585	28	24,490	875				176	301,467	1713						
Iowa										1	1,250	1250						
Kansas	811	2,591,390	3195	181	545,148	3012				678	2,336,281	3446						
Kentucky	331	538,988	1628	77	176,945	2298				242	441,269	1823	1	935	935			
Louisiana	599	4,486,650	7490	82	362,007	4415	46	431,719	9385	352	2,492,487	7081	1	9,797	9797			
North Louisiana	213	1,011,195	4747	70	257,564	3679	13	102,168	7859	160	714,990	4469						
South Louisiana	386	3,475,455	9004	12	104,433	8703	33	329,551	9986	192	1,777,497	9258	1	9,797	9797			
Michigan	291	856,262	2942	49	76,964	1571				419	1,032,781	2465				2	2,750	1375
Mississippi	191	1,191,749	6239	3	29,119	9706	8	66,944	8368	166	1,152,903	6945						
Missouri	4	978	244	10	3,520	352				30	44,396	1480						
Montana	173	429,635	2483	17	32,964	1939				45	121,519	2700						
Nebraska										5	16,800	3360						
New Mexico	277	1,017,293	3672	15	55,027	3668				131	472,903	3610						
New York	723	1,015,667	1405	3	11,600	3867				4	18,221	4555	408	544,680	1335			
North Carolina										1	4,044	4044						
Ohio	248	591,660	2386	352	858,645	2439				415	1,125,851	2713	5	2,023	405	1	3,325	3325
Oklahoma	1370	5,916,237	4318	125	405,032	3240	2	18,995	9498	763	2,848,540	3733	5	13,217	2643	22	44,463	2021
Pennsylvania	1400	2,254,496	1610	232	652,041	2811				52	159,310	3064	1227	1,963,200	1600			
South Dakota										1	4,950	4950						
Tennessee										4	8,630	2158						
Texas	4025	18,626,952	4628	699	2,948,338	4218	93	757,968	8150	2423	10,240,811	4227	14	22,346	1596	19	32,013	1685
E. Texas Border Co.'s	2	15,672	7836	92	595,884	6477	10	67,211	6721	24	148,667	6194						
East Texas Field																		
Rest of East Texas	145	906,328	6251	13	81,219	6248	3	23,642	7881	102	578,479	5671						
North Texas	967	2,480,921	2566	15	55,469	3698				814	1,984,514	2438	13	9,354	720	17	19,080	1122
West Central Texas	199	532,189	2674	48	145,336	3028				224	620,773	2771						
West Texas	1289	6,439,343	4996	24	84,173	3507				367	1,764,442	4808						
Texas Panhandle	179	552,106	3084	341	1,035,452	3037				41	186,726	4554						
Gulf Coast, Upper	353	2,538,720	7192	43	284,551	6617	41	385,859	9411	268	1,950,496	7278	1	12,992	12992			
Gulf Coast, Lower	645	4,122,767	6392	88	531,082	6035	37	272,083	7354	298	1,876,838	6298				2	12,933	6466
Southwest Texas	220	877,659	3989	32	120,213	3757	2	9,173	4587	220	871,766	3963						
South Central Texas	26	161,247	6202	3	14,959	4986				65	258,110	3971						
Washington										1	3,200	3200						
West Virginia	86	191,382	2225	552	1,517,218	2749				129	354,404	2747						
Wyoming	147	694,883	4727	5	18,019	3604				41	162,384	3961				1	1,450	1450
Total United States	13,738	50,955,807	3709	2484	7,985,028	3215	153	1,314,818	8594	7226	27,289,164	3777	1663	2,557,185	1538	46	84,437	1836

(Continued from above)

STATE OR DIST.	SALT WATER DISPOSAL			TOTAL NEW WELLS (Preceding Classes) 1945			TOTAL NEW WELLS (Preceding Classes) 1944			OLD WELLS DRILLED DEEPER, 1945 (Productive and Dry)			TOTAL ALL WELLS 1945			TOTAL ALL WELLS 1944		
	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth	Wells	Footage	Average Depth
Alabama				38	151,088	3976	38	188,622	4964				38	151,088	3976	38	188,622	4963
Arizona							6	16,190	2698							6	16,190	2698
Arkansas				198	864,651	4367	231	1,315,228	5694	2	180	90	200	864,831	4324	233	1,317,411	5654
California				2,078	8,592,398	4135	1,977	7,225,356	3655	12	6,651	554	2,090	8,599,049	4114	2,043	7,298,224	3572
Colorado				53	323,492	6104	30	150,711	5024				53	323,492	6104	30	150,711	5024
Florida				15	98,395	6560	7	39,948	5707				15	98,395	6560	7	39,948	5707
Georgia				6	19,502	3250	8	44,028	5504				6	19,502	3250	8	44,028	5504
Illinois	14	32,653	2332	1,778	4,601,038	2588	1,996	5,170,709	2591	130	16,562	127	1,908	4,617,600	2420	2,066	5,188,996	2512
Indiana				322	512,970	1593	326	603,681	1852	10	2,581	258	332	515,551	1553	335	607,583	1814
Iowa				1	1,250	1250	2	3,470	1735				1	1,250	1250	2	3,470	1735
Kansas	13	44,060	3389	1,683	5,516,879	3278	1,706	5,755,720	3374	74	17,083	231	1,757	5,533,962	3150	1,725	5,760,106	3339
Kentucky				651	1,158,137	1779	812	1,490,022	1835	7	798	114	658	1,158,935	1761	826	1,497,739	1813
Louisiana	1	8,425	8425	1,081	7,791,075	7207	772	5,776,546	7483	6	7,530	1,255	1,087	7,798,605	7174	778	5,780,925	7430
North Louisiana	1	8,425	8425	457	2,094,342	4583	284	1,258,552	4432	2	3,153	1576	459	2,097,495	4570	286	1,258,862	4402
South Louisiana				624	5,696,733	9129	488	4,517,994	9258	4	4,377	1094	628	5,701,110	9078	492	4,522,063	9191
Michigan				761	1,968,757	2587	683	1,676,434	2455	2	1,416	708	763	1,970,173	2582	688	1,686,056	2451
Mississippi				368	2,440,715	6632	213	1,243,907	5840	1	172	172	369	2,440,887	6615	213	1,243,907	5840
Missouri				44	48,894	1111	61	41,455	680	4	1,170	293	48	50,064	1043	61	41,455	680
Montana	2	5,048	2524	237	589,166	2486	335	863,612	2578	1	9	9	238	589,175	2476	335	863,612	2578
Nebraska				5	16,800	3360	17	53,997	3176				5	16,800	3360	18	56,186	3121
New Mexico				423	1,545,223	3653	416	1,291,994	3106	2	1,335	668	425	1,546,558	3639	422	1,294,646	3068
New York				1,138	1,590,168	1397	1,249	1,717,358	1375				1,138	1,590,168	1397	1,249	1,717,358	1375
North Carolina				1	4,044	4044							1	4,044	4044			
Ohio				1,021	2,581,504	2528	1,023	2,681,828	2622	2	175	87	1,023	2,581,679	2524	1,024	2,681,835	2619
Oklahoma	9	22,073	2453	2,296	9,268,557	4037	1,861	7,061,587	3795	55	22,363	407	2,351	9,290,920	3952	1,891	7,071,174	3739
Pennsylvania				2,911	5,029,047	1728	3,059	5,460,062	1785	18	14,609	812	2,929	5,043,656	1722	3,060	5,460,485	1784
South Dakota				1	4,950	4950							1	4,950	4950			
Tennessee				4	8,630	2158	9	7,848	872				4	8,630	2158	9	7,848	872
Texas	5	10,330	2066	7,278	32,638,758	4485	6,093	27,650,480	4538	131	57,893	442	7,409	32,696,651	4413	6,235	27,721,738	4446
E. Tex. Bor. Co.'s				128	827,434	6,464	35	217,260	6207				128	827,434	6464	35	217,260	6207
East Texas Field							1	4,049	4049							4	4,509	1127
Rest of E. Texas				263	1,589,668	6044	278	1,669,851	6007	5	6,149	1230	268	1,595,817	5955	280	1,670,216	5965
North Texas	4	2,380	595	1,830	4,551,718	2487	1,373	4,093,263	2981	20	13,554	678	1,850	4,565,272	2468	1,415	4,109,191	2904
W. Central Texas				471	1,298,298	2756	400	987,660	2469	11	7,045	640	482	1,305,343	2708	419	997,213	2380
West Texas				1,680	8,287,958	4933	1,591	7,246,101	4554	52	18,396	354	1,732	8,306,354	4796	1,648	7,274,519	4414
Texas Panhandle				561	1,774,284	3163	329	1,038,237	3156	27	2,507	93	588	1,776,791	3022	332	1,040,618	3134
Gulf Coast, Upper				706	5,172,618	7327	602	4,351,276	7228	7	4,061	580	713	5,176,679	7260	612	4,360,130	7124
Gulf Coast, Lower				1,070	6,815,703	6370	924	5,887,008	6371	7	6,068	867	1,077	6,821,771	6334	927	5,889,060	6353
Southwest Texas				474	1,878,811	3964	456	1,805,247	3959	2	113	56	476	1,878,924	3947	458	1,807,497	3947
S. Central Texas	1	7,950	7950	95	442,266	4655	104	350,528	3370				95	442,266	4655	105	351,525	3348
Utah							1	4,743	4743							1	4,743	4743
Washington				1	3,200	3200							1	3,200	3200			
West Virginia				768	2,064,454	2688	973	2,514,254	2584	35	26,660	762	803	2,091,114	2604	975	2,516,364	2581
Wyoming				193	875,286	4535	176	787,768	4476				193	875,286	4535	177	787,919	4452
Total U. S.	44	122,589	2786	25,354	90,309,028	3562	24,080	80,837,558	3357	492	177,187	360	25,846	90,486,215	3501	24,455	81,049,279	3314



Changes in World Drilling Depth Records

Drilling and Producing Depth Marks Tumble

New world records for both producing and drilling depths, and many district records established in 1945

WORLD drilling and producing depth records were established in the United States during 1945. Reflecting a general trend of drilling to greater depths, records for drilling and producing depths also were established for numerous states and districts.

The world's drilling depth record was extended by 409 feet to 16,655 feet, while the world's producing depth record was increased 17 feet to 13,520 feet.

Current Records

Today's record for the greatest depth ever drilled is 815 feet beyond three miles. This depth was reached early in 1945 by a test of Phillips Petroleum Company on Millican Dome in the Upper Gulf Coast area of Texas. The test reached the Lower Cretaceous formation.

A year ago the record holder was in the Cole's Levee field of California, where an operation of Standard Oil Company of California reached 16,246 feet late in 1944. At this depth the well was in the Miocene formation. It still holds the runner-up position for the deepest well ever drilled.

The record for the deepest level from which oil is being produced was established in the Weeks Island field of Southern Louisiana by Shell Oil Company, Inc. The well is producing from the Miocene at 13,520 feet. A year ago the deepest production in the world was coming from another Southern Louisiana field, the DeLarge field holding the record with 13,503 feet as the mark. This is still the second deepest production in the world.

The only other 13,000-foot production is in the Wasco field of California, which has been producing from 13,175 feet since 1938. Again, Miocene is the producing formation.

District Drilling Depths

A total of 15 different states now have 10,000-foot or greater depth drilling records. Outside of Texas and California, the deepest state drilling record is Oklahoma's 14,582 feet and Louisiana's 14,023 feet, followed by New Mexico with 13,998 feet, then Florida with 13,512 feet. Next comes Mississippi with 12,843 feet, Colorado with 12,702, Alabama with 12,399 feet, Wyoming with 11,600 feet, and Arkansas with 11,137 feet. Michigan, North Dakota, Pennsylvania and West Virginia all have drilling depth records between 10,000 and 11,000 feet.

State and district drilling and producing depth records appear on page 137.

Eleven states or districts received new drilling depth records during 1945. In addition to the world's record holder in the Upper Gulf Coast region, the drilling depth marks for several other Texas districts were extended. The Southwest Texas drilling depth record was advanced to 15,301 feet, East Texas to 13,577 feet, East Texas Border Counties to 11,601 feet by a test still drilling, North Texas to 9919 feet, Texas Panhandle to 8502 feet, and West Central Texas to 7980 feet.

Louisiana's present depth record of 14,023 feet was a 1945 operation, as was New Mexico's 13,998-foot, Wyoming's 11,600-foot and Colorado's 12,702-foot records.

Practically all states and districts have received greater drilling depth records during the past five years. Exceptions are Oklahoma, Lower Texas Gulf Coast, North Dakota, South Dakota, Ohio and such shallow depth states as Nebraska, Iowa, Indiana and Tennessee.

District Producing Depths

Seven states now produce oil from below 10,000 feet. Outside of Louisiana and California, the deepest producing region is New Mexico, which has production from 11,928 feet. Texas follows with 11,805-foot production in the Upper Gulf Coast region. Then comes Florida, its sole producing well yielding oil from 11,626 feet, followed by Oklahoma with 10,995 feet and Mississippi with a producing depth record of 10,560 feet.

Outside of the Upper Gulf Coast area, Texas has 11,000-foot production in West Texas, the Lower Gulf Coast, and 10,000-foot production in East Texas.

Deeper producing depth records were established in 11 different states or districts during 1945. Besides the new world's record in Southern Louisiana, the deepest producer completed during the year was a 11,422-foot well in West Texas, and an 11,149-foot producing completion in the Lower Texas Gulf Coast region.

Oklahoma's deepest production, from 10,995 feet, was another 1945 accomplishment, as was North Louisiana's 10,681-foot producer. South Central Texas extended its producing depth to 7669 feet, North Texas to 7415 feet, and East Texas Border Counties to 6794 feet. Montana saw completion of a producing well at 6182 feet during the year, Ohio's deepest production level was boosted to 5019 feet, and Alabama's record to 3624 feet.

Shallowest producing depth record of any state is that of Missouri. Deepest production in Missouri is from 1444 feet, followed closely by Tennessee's 1617 feet. Tennessee's record has stood since 1920.

While Pennsylvania and West Virginia are generally thought of as shallow producing regions, they also have some deep production. The record for Pennsylvania is 8452 feet and that of West Virginia is 8048 feet. These state records were established during 1944.

Drilling Depth Records in U. S., by States and Districts

State or District	Feet	Year	Formation	Well, Location and Remarks
Upper Texas Coast	16,655	1945	L. Cretaceous	Phillips Petroleum Company's Schoeps 3, Millican salt dome area, Brazos County.
California	16,246	1944	Miocene	Standard Oil Company of California's KCL 20-13, South Coles Levee, Kern County.
Southwest Texas	15,301	1945	L. Cretaceous	Quintana Petroleum Company's South Texas Syndicate 3-D, McMullen County.
West Texas	15,279	1944	Ellenburger	Phillips Petroleum Company's Ada Price 1, T. C. Railway survey, Pecos County.
Oklahoma	14,582	1938	Pennsylvanian	Continental Oil Company's Proctor 1, Washita County.
South Louisiana	14,023	1945	Miocene	Shell Oil Company's Smith-State 1, Weeks Island, Iberia Parish.
New Mexico	13,998	1945	Ordovician	Phillips Petroleum Company's State-Lea-Mex 4, Maljamar area, Lea County.
Lower Texas Coast	13,728	1939	Yegua	Union Production Company's Brown 1, Agua Dulce field, Nueces County.
East Texas	13,577	1945	Cotton Valley	Sinclair Prairie Oil Company's Shofner 1, Chapel Hill field, Smith County.
Florida	13,512	1944	Lime	Humble Oil & Refining Company's Gulf Coast Realty 2, Sunniland field, Collier County.
North Louisiana	12,952	1942	Smackover	Union Producing Company's McDonald Unit 1, North Lisbon field, Claiborne Parish.
Mississippi	12,843	1943	Glen Rose	California Company's Smith et al 1, Brookhaven area, Lincoln County.
Colorado	12,702	1045	Dolomite	Texas Company-California Company's Unit 20, Wilson Creek field, Rio Blanco County.
Alabama	12,399	1941	Jurassic	Union Producing Company's Waite 1, 27-8n-1e, Clarke County.
East Texas Border	11,601	1946	Smackover	Humble Oil & Refining Company's Pickering Lumber Co. 1, Shelby County, Still drilling, 1-15-46.
Wyoming	11,600	1946	....	Mountain Fuel Supply Co.-Union Pacific R. R. 1, Church Butte, Uinta County. Still drilling, 1-15-46.
Arkansas	11,137	1944	Eagle Mills	Union Producing Company's Crossett Lumber Company F-1, 12-19-7, Ashley County.
South Central Texas	11,042	1942	Edwards Lime	Quintana Petroleum Corporation's Washburn 3-A, Washburn field, LaSalle County.
Michigan	10,447	1941	St. Peters	Gulf Renfiing Company's Bateson 1, 2-14n-4e, Bay County.
North Dakota	10,?81	1938	....	California Company's Kamp 1, Nesson Anticline, Williams County.
Pennsylvania	10,096	1944	Upper Cambrian-Sandy Dolomite	Manufacturers Light & Heat Company's Hockenberry 1, Mercer Township, Butler County.
West Virginia	10,018	1941	Queenston	Hope Natural Gas Company's Gribble 1, Grant district, Harrison County.
North Texas	9,919	1945	Ellenburger	Pure Oil Company's Little 1-A, J. Myers survey, 1½ miles southwest of Gordonville.
Montana	9,678	1941	Schist	Carter Oil Company's Northern Pacific 1, Baker-Glendive, Fallon County.
New York	8,626	1944	Oswego	New Penn Development Company's Harrington 1, Woodhull Township, Steuben County.
Texas Panhandle	8,502	1945	Conglomerate	Sinclair Prairie Oil Company's J. B. Henderson 1, c nw nw H. & G. N. Railway 16, Block A-8.
Maryland	8,165	1941	Helderburg	Wm. Snee's Schartzer 1, Accident district, Garrett County.
West Central Texas	7,980	1945	Ellenburger	Humble Oil & Refining Company's C. H. Tompkins 1, c nw ne T. & P. Railway 169, 3 mi se Pecater.
Kansas	7,921	1945	Arbuckle	Stanolind Oil & Gas Company's Adams 1, Adams Ranch pool, Meade County.
South Dakota	7,918	1939	....	South Dakota State Royalty Company's State 1, Camp Crook, Harding County.
Ohio	7,889	1933	Clinton	Sylvania Production Company's Knowlton 1, Independence Township, Washington County
Georgia	7,320	1944	Granite	Mont Warren-Ray Robinson's Chandler 1, Land District 26, Early County.
Illinois	7,207	1940	St. Peter	Pure Oil Company's Billington 3, 26-1n-7e, Clane field, Wayne County.
Nebraska	6,846	1938	Pennsylvanian	Union Oil Company of California's Agate 15, Sioux County.
Western Kentucky	5,955	1920	Ordovician	D. D. Flanagan's Sol Blue 2, Union County.
Eastern Kentucky	5,743	....	Red Meidna	Columbian Fuel Corporation's Ford Motor 1, Pike County.
Iowa	5,305	1930	Cambrian	Oil Development Company's Wilson 1, Page County.
Indiana	5,035	1938	Devonian	Carter Oil Company's Graulich 1, 4-7s-14w, Posey County.
Missouri	4,740	1941	Cambrian	Strake Petroleum Company's T. P. Russell 1, Pemiscot County.
Tennessee	4,235	1932	Knox Dolomite	Sequatchie Gas Company's Sewanee Fuel & Iron Company 1, Grundy County.

Producing Depth Records in U. S. by States and Districts

State or District	Feet	Year	Formation	Well, Location and Remarks
South Louisiana	13,250	1945	Miocene	Shell Oil Company's Smith-State 1, Weeks Island field, Iberia Parish, 40-gravity production.
California	13,175	1938	Miocene	Continental Oil Company's KCL A-2, Wasco field, Kern County.
New Mexico	11,928	1944	Ellenburger	Humble Oil & Ref. Co.'s Leonard-Government 1, Dublin field, Lea Co., deepest oil production in state.
Upper Texas Coast	11,805	1943	Wilcox	Superior Oil Company's South Texas Development C9. 1, Lake Creek field, Montgomery County.
Florida	11,626	1943	Glen Rose	Humble Oil & Refining Company's Gulf Coast Realty 1, Sunniland field, Collier County.
West Texas	11,422	1945	Devonian	Amerada Petroleum Corporation's Jones 1-A, discovery for Jones Ranch field, Gaines County.
Lower Texas Coast	11,149	1945	Wilcox	Sun Oil Company's R. A. Thompson 1, West Goliad discovery, Goliad County.
Oklahoma	10,995	1945	Ordovician	Cities Service Oil Company's Lawson 1, North Lindsay pool, McClain County.
North Louisiana	10,681	1945	Cotton Valley	Cotton Valley Operators' Gray 1, Cotton Valley field, Webster Parish.
Mississippi	10,560	1944	Massive ad	California Company's Douglas 1, Mallalieu field, Lincoln County.
East Texas	10,312	1942	Pettit	Humble Oil & Refining Company's Curtis 1, Larissa field, Cherokee County.
Arkansas	9,330	1942	Smackover	Tide Water Associated Oil Co.-Seaboard Oil Co. of Delaware's Bandow 1, Patton field, Lafayette Co.
Wyoming	8,725	1931	Frontier	Resolute Oil Company's N. P. 1, Badger Basin field, Park County.
New Mexico	8,650	1945	Paradox (Penn)	Southern Union Gas Company's Barker-Ute Indian 9, Barker Dome field, San Juan Co., deepest gas production in state.
Colorado	8,558	1943	Dakota-Lakota	Superior Oil Company's Unit 1, Douglas Creek, Rio Blanco County.
Pennsylvania	8,450	1944	Silurian	New Pennsylvania Development Corporation's Heyn 1, South Union Township, Fayette County.
West Virginia	8,048	1944	Oriskany	Ohio Oil Company's Kaemerling 1, Dry Fork District, Tucker County. Gas well.
Michigan	7,850	1941	Salina	Gulf Refining Company's Bateson 1, 2-14n-4e, Bay County.
South Central Texas	7,669	1945	Edwards	Humble Oil & Refining Company's J. Courand 1, Imogene field, Atascosa County.
North Texas	7,415	1945	Basal Strawn	Magnolia's Joe Dillard 1, Sivels Bend field, Cooke County.
Southwest Texas	6,922	1944	Wilcox	Edwin M. Jones' Esell C-2, San Caja field, McMullen County.
East Texas Border	6,794	1945	L. Rodessa	L. E. & R. J. Whelan's Pearl Estate 1, Harleton area, Harrison County.
Kansas	6,485	1936	Viola Lime	Olson Drilling Company's Morrison 3, Morrison pool, Clark County.
Montana	6,182	1945	Tensleep	Stanolind Oil & Gas Company-Dengler Government No. 2, Elk Basin field, Carbon County.
West Central Texas	6,065	1940	Mississippian	J. D. Sandefer Jr., et al (was Shell Oil Co.'s) T. K. Smith 1, Aspermont pool, Stonewall County.
Ohio	5,820	1941	Clinton	East Ohio Gas Company's Phillips 2, Washington Township., Harrison County, deepest gas producer.
New York	5,200	1938	Oriskany	New York State Natural Gas Company's Carr 1, West Union Township, Steuben County.
Eastern Kentucky	5,170	1932	Devonian Sh.	United Carbon's Howe 1, Pike County, deepest gas producer.
Ohio	5,019	1946	Clinton	Belden et al Fry 1, Pike Township, Stark County, deepest oil producer.
Illinois	4,780	1943	Trenton	Kingwood Oil Company's Shanafelt 24-A, Salem pool, Marion County.
Eastern Kentucky	4,523	....	Devonian Sh	Columbian Fuel Corporation's Semet-Solvay Coal Co. 1, Pike County, deepest oil producer.
Texas Panhandle	3,830	1929	Permian	Canadian River Gas Company's Bivens 9-A, Hartley County., gas producer.
Alabama	3,624	1945	Eutaw	Hunt Oil Company's Robert Land 4, Gilbertown field, Choctaw County.
Indiana	2,928	1941	McClosky	J. S. Robert's Keck 1, 34-3s-14w.
Nebraska	2,900	1942	Hunton	Skelly Oil Company's Wiltse 1, Dawson pool, Richardson County.
Western Kentucky	2,840	1944	McClosky	Ashland Oil & Refining Company's Johnson 2, 13-O-12, Raleigh pool, Union County.
Tennessee	1,617	1920	Knox dolomite	Harbor Oil Company's Sells 1, Pickett County.
Missouri	1,444	1940	Bartlesville	Cities Service Oil Company's Jim Cook 1, Tarkio pool, Atchison County.

Peak Wildcatting Discovered Many New Producing Sources

THE petroleum industry drilled a record number of wildcat or exploratory tests during 1945, although barely exceeding the unusually high rate of 1944. A large number of new fields and new pay horizons were discovered, but they did not quite equal the 1941 level when 600 fewer wildcats were completed.

Completion of 4337 exploratory tests resulted in 818 productive wells, of which 638 opened new fields and pays

During the year there were 4337 exploratory tests completed, including field outpost attempts. This was in contrast with 4324 in the preceding 12 months. These rates were far above those of preceding years, as indicated by these figures:

1943	3612
1942	3166
1941	3697
1940	3164

In keeping with the record rate of wildcat drilling, the number of productive wildcats rose to an all-time peak. The 4337 exploratory tests completed in 1945 resulted in the completion of 818 wells that produced either oil, gas or distillate. The ratio of successful exploratory tests was on a par with that of preceding years. This total was made up of 638 new oil, gas and distillate producing fields and pay sands, and 180 extension or outpost completions in proven areas.

The 638 new fields and pays discovered compare with 633 during 1944. New fields totaled 451 in 1945, compared with 460 in 1944. However, new pays increased to 187 in 1945 from the 173 new pays opened in 1944.

The intensive search for additional new sources of supply resulted in the discovery of 473 new oil producing fields and new producing horizons in previously known fields. This total was made up of 315 new oil fields, a decline from the 326 oil fields opened during 1944, and 158 new pays that produced oil. The new oil producing pays discovered during 1944 had totaled 149, or nine less than in 1944.

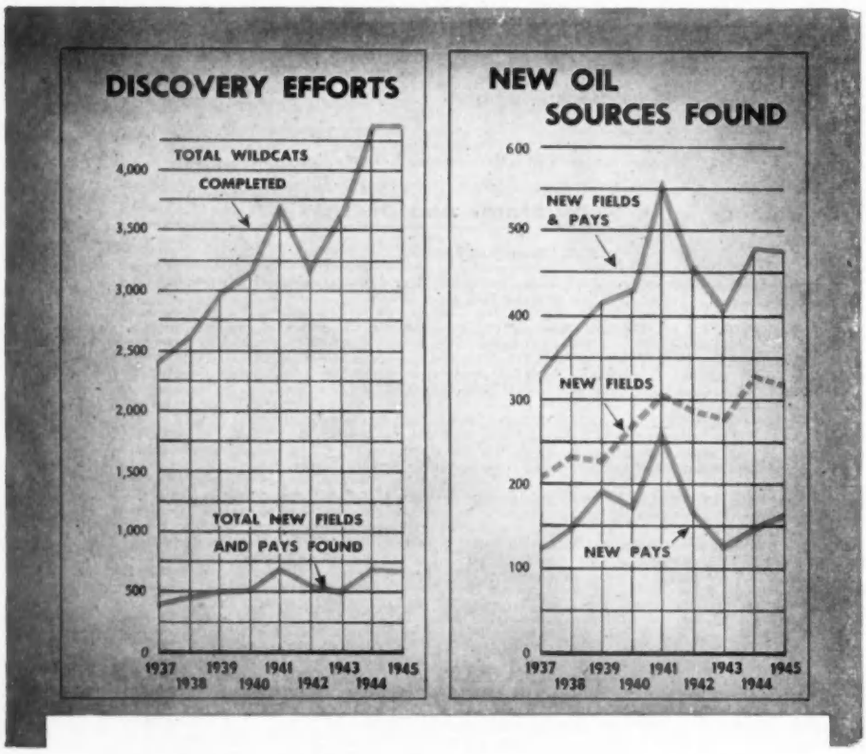
There were slight increases marked up in the total number of gas and distillate fields found by exploratory tests during 1945. Gas discoveries were hiked from 117 in 1944 to 121 in 1945 while distillate discoveries totaled 44 during the past year as compared with 41 in 1944. The gas discoveries included 106 new fields and 15 new pay sands, while 30 of the exploratory tests found new distillate fields and 14 opened up new pays.

Total footage drilled by the 4337 exploratory tests in 1945 was 18,963,093 feet, an average of 4372 feet per test. This compares with 17,832,328 feet drilled by 4325 exploratory tests in 1944, an average of 4124 feet. The average depth of exploratory wells in 1945 was the deepest in history of the oil industry.

Texas again led the nation in exploratory completions with 283 finding new sources of oil, gas and distillate, including new fields, pays and extensions of proven fields, out of a total of 1536 drilled. There were 113 new oil fields found, with North Texas accounting for 31, West Texas 24, Lower Texas Coast 18, and Upper Texas Coast 16. Sixty-five wells opened new oil pays, and 31 extended proven fields. There were 22 new distillate fields opened and 35 gas fields uncovered.

Oklahoma was second in the number of exploratory completions with 111 payoffs out of the 410 such tests drilled. Discoveries included 59 new oil fields, 3 distillate pools and 18 gas fields. The ratio of exploratory completions in this state was very good.

Kansas had 94 successful completions out of the 411 exploratory tests drilled. These included 44 new oil fields and 14 new gas pools.

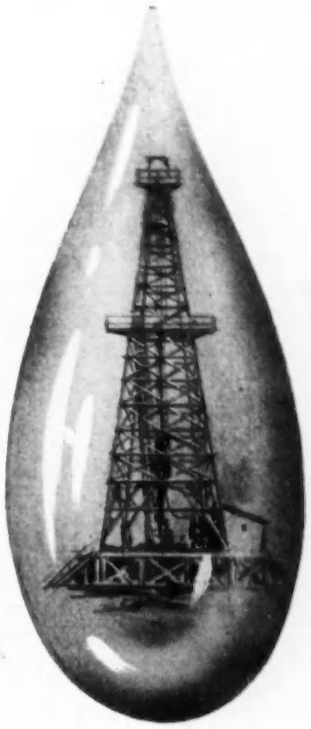


YEAR	Total New Oil Gas and Distillate Sources Found			New Oil Sources Found			New Gas Sources Found			New Distillate Sources Found		
	Total	New Fields	New Pays	Total	New Fields	New Pays	Total	New Fields	New Pays	Total	New Fields	New Pays
1937	376	239	137	322	203	119	48	33	15	6	3	3
1938	423	264	159	373	229	144	42	31	11	8	4	4
1939	473	258	215	414	224	190	55	33	22	4	1	3
1940	492	309	183	428	261	167	62	46	16	2	2	0
1941	650	362	288	562	301	261	83	58	25	5	3	2
1942	523	348	175	451	288	163	57	47	10	15	13	2
1943	499	347	152	403	276	127	72	56	16	24	15	9
1944	633	460	173	475	326	149	117	102	15	41	32	9
1945	638	451	187	473	315	158	121	106	15	44	30	14

Details of exploratory drilling results by states in 1945 appear on pages 140 and 141.

Salient data on individual productive exploratory wells completed in 1945 begin on page 174.

EXPLORATION MOST LIKELY TO SUCCEED—



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Results of Exploratory Drilling in the United States in 1945, by States, and Comparison with Earlier Years

(Based on Data Compiled by the Staff of The Oil Weekly)

PART 1: Productive Tests

State or District	OIL									DISTILLATE									GAS									TOTAL PRODUCTIVE		
	New Fields			New Pays			Extensions			New Fields			New Pays			Extensions			New Fields			New Pays			Extensions					
	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth	No.	Footage	Avg. Depth
Alabama	1	3,461	3461	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	1	2,004	2004	..	.....	....	..	.....	....	2	5,465	2732
Arizona	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Arkansas	1	2,954	2954	1	6,350	6350	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	2	9,304	4652
California	4	10,240	2560	4	22,163	5541	4	28,488	7122	..	.....	....	..	.....	....	..	.....	....	1	4,840	4840	..	.....	....	2	8,723	4362	15	74,454	4964
Colorado	..	.....	....	..	.....	....	5	30,185	6037	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	5	30,185	6037
Florida	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Georgia	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Illinois	28	77,791	2778	26	75,681	2911	49	136,980	2795	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	103	290,452	2820
Indiana	5	10,881	2176	2	5,355	2678	2	2,294	1147	..	.....	....	..	.....	....	..	.....	....	3	2,297	766	..	.....	....	..	.....	....	12	20,827	1736
Iowa	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Kansas	44	152,368	3463	11	37,610	3419	20	70,663	3513	..	.....	....	..	.....	....	..	.....	....	14	57,689	4121	..	.....	....	5	17,573	3515	94	335,903	3573
Kentucky	8	13,551	1694	1	2,551	2551	2	3,972	1986	..	.....	....	..	.....	....	..	.....	....	1	1,934	1934	..	.....	....	..	.....	....	12	22,008	1834
Louisiana	23	194,635	8462	20	201,284	10064	5	43,405	8681	3	32,390	10797	6	67,237	11206	2	19,721	9861	6	34,199	5700	..	.....	....	1	6,782	6782	66	599,653	9086
North Louisiana	8	43,351	5419	2	13,838	6919	3	21,148	7049	1	9,137	9137	..	.....	....	1	9,307	9307	6	34,199	5700	..	.....	....	1	6,782	6782	22	137,762	6262
South Louisiana	15	151,284	10086	18	187,446	10414	2	22,257	11128	2	23,253	11626	6	67,237	11206	1	10,414	10414	..	.....	....	..	.....	....	..	.....	....	44	461,891	10497
Michigan	16	46,469	2904	4	17,890	4473	1	1,661	1661	..	.....	....	..	.....	....	..	.....	....	7	10,032	1433	3	4,620	1540	..	.....	....	31	80,672	2602
Mississippi	2	15,107	7554	..	.....	....	6	53,498	8916	2	21,703	10852	..	.....	....	..	.....	....	1	8,153	8153	..	.....	....	..	.....	....	11	98,461	8951
Missouri	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Montana	4	11,197	2799	2	4,482	2241	1	3,064	3064	..	.....	....	..	.....	....	..	.....	....	1	3,221	3221	..	.....	....	..	.....	....	8	21,964	2746
Nebraska	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
New Mexico	3	13,806	4602	6	42,932	7155	3	18,523	6174	..	.....	....	..	.....	....	..	.....	....	1	933	933	3	18,240	6080	..	.....	....	16	94,434	5902
Ohio	..	.....	....	1	3,251	3251	2	7,369	3685	..	.....	....	..	.....	....	..	.....	....	15	49,091	3273	1	2,094	2094	9	31,729	3525	28	93,534	3341
Oklahoma	59	253,156	4291	10	42,974	4297	16	77,883	4868	3	24,845	8282	..	.....	....	..	.....	....	18	60,657	3370	3	19,429	6476	2	5,145	2573	111	484,089	4361
Oregon	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Tennessee	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Texas	113	672,911	5955	65	404,319	6220	31	184,861	5963	22	190,977	8681	8	73,227	9153	4	34,441	8610	35	201,489	5757	4	19,778	4945	1	7,013	7013	283	1,789,016	6322
E. Texas Border	1	7,500	7500	..	.....	....	..	.....	....	3	21,672	7224	..	.....	....	..	.....	....	6	42,255	7043	..	.....	....	..	.....	....	10	71,427	7143
Rest of E. Texas	2	18,146	9073	2	15,070	7535	..	.....	....	1	7,589	7589	3	24,766	8255	..	.....	....	2	16,053	8027	1	8,292	8292	..	.....	....	11	89,916	8174
North Texas	31	127,240	4105	18	90,712	5040	5	28,951	5790	..	.....	....	..	.....	....	..	.....	....	1	912	912	1	608	608	..	.....	....	56	248,423	4436
West Central Texas	15	47,934	3196	7	23,379	3340	..	.....	....	..	.....	....	..	.....	....	..	.....	....	5	14,396	2879	..	.....	....	..	.....	....	27	85,709	3174
West Texas	24	181,691	7570	13	112,267	8636	18	98,212	5456	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	55	392,170	7130
Texas Panhandle	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Gulf Coast, Upper	16	132,006	8250	17	118,656	6980	6	46,383	7731	9	86,275	9586	1	11,820	11820	4	34,441	8610	6	35,020	5837	..	.....	....	..	.....	....	59	464,601	7875
Gulf Coast, Lower	18	130,710	7262	4	26,313	6578	1	6,795	6795	8	70,508	8814	4	36,641	9160	..	.....	....	10	69,443	6944	2	10,878	5439	1	7,013	7013	48	358,301	7465
Southwest Texas	4	17,427	4357	4	17,922	4481	1	4,520	4520	1	4,933	4933	..	.....	....	..	.....	....	2	5,460	2730	..	.....	....	..	.....	....	12	50,262	4189
South Central Texas	2	10,257	5128	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	3	17,959	5983	..	.....	....	..	.....	....	5	28,207	5641
Utah	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Washington	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
West Virginia	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....	..	.....	....
Wyoming	4	19,866	4967	5	27,846	5569	7	39,976	5711	..	.....	....	..	.....	....	..	.....	....	2	11,751	5876	1	3,294	3294	..	.....	....	19	102,733	5407
U.S. Total, 1945	315	1,498,393	4757	158	894,688	5663	154	702,822	4564	30	269,915	8997	14	140,464	10033	6	54,162	9027	106	448,290	4229	15	67,155	4197	20	76,965	3848	818	4,153,151	5077
U. S. Total, Earlier Years—																														
1944	326	1,422,250	4363	149	731,764	4911	1235	659,987	4889	32	250,228	7820	9	75,436	8382	10	79,797	7980	102	417,944	4097	15	95,099	6340	27	111,174	4118	805	3,843,679	4775
1943	276	1,232,391	4465	127	565,454	4452	132	559,090	4236	15	140,564	9371	9	88,031	9781	3	25,589	8530	56	212,814	3890	16	90,372	5648	10	58,996	5900	644	2,973,301	4617
1942	288	1,199,382	4165	163	879,116	5393	..	.....	....	13	121,620	9355	2	13,517	6759	..	.....	....	47	167,428	3562	10	50,712	5071	..	.....	....	523	2,431,775	4650
1941	301	1,165,966	3874	261	1,335,648	5117	..	.....	....	3	23,505	7835	2	7,109	3555	..	.....	....	58	177,974	3069	25	89,263	3571	..	.....	....	650	2,799,465	4307
1940	261	957,167	3667	167	914,442	5476	..	.....	....	2	12,792	6396	..	.....	....	..	.....	....	46	122,439	2662	16	55,983	3499	..	.....	....	492	2,062,823	4193
1939	224	782,289	3492	190	998,595	5256	..	.....	....	1	7,999	7999	3	24,709	8236	..	.....	....	33	103,450	3135	22	92,626	4210	..	.....	....	473	2,039,668	4249
1938	229	944,455	4124	144	815,186	5661	7	25,027	3575	4	23,657	5914	4	27,115	6779	..	.....	....	31	102,440	3305	11	49,634	4512	3	12,042	4014	433	1,999,556	4618
1937	203	831,123	4094	119	615,007	5168	3	9,036	3012	3	19,377	6459	3	24,574	8191	..	.....	....	33	77,389	2345	15	51,145	3410	..	.....	....	379	1,627,651	4295

PART 2: Unproductive Tests and Total Exploratory Tests

STATE OR DISTRICT	DRY WILDCATS			DRY NEW PAY TESTS			DRY OUTPOSTS			TOTAL DRY			TOTAL EXPLORATORY TESTS		
	No.	Footage	Average Depth	No.	Footage	Average Depth	No.	Footage	Average Depth	No.	Footage	Average Depth	No.	Footage	Average Depth
Alabama	21	95,511	4548	....	.....	....	....	.....	....	21	95,511	4548	23	100,976	4390
Arizona	....	.....	....	....	.....	....	....	.....	....	....	.....	....	....	.....	....
Arkansas	41	185,427	4523	1	7,870	7870	1	6,650	6650	43	199,947	4650	45	209,251	4650
California	280	1,336,908	4775	....	.....	....	2	12,903	6452	282	1,349,811	4787	297	1,424,265	4796
Colorado	11	64,574	5870	....	.....	....	....	.....	....	11	64,574	5870	16	94,759	5922
Florida	13	75,004	5770	....	.....	....	....	.....	....	13	75,004	5770	13	75,004	5770
Georgia	6	19,502	3250	....	.....	....	....	.....	....	6	19,502	3250	6	19,502	3250
Illinois	386	982,214	2545	....	.....	....	....	.....	....	386	982,214	2545	489	1,272,666	2603
Indiana	87	163,134	1875	....	.....	....	....	.....	....	87	163,134	1875	99	183,961	1858
Iowa	1	1,250	1250	....	.....	....	....	.....	....	1	1,250	1250	1	1,250	1250
Kansas	317	1,156,753	3649	....	.....	....	....	.....	....	317	1,156,753	3649	411	1,492,656	3632
Kentucky	90	180,819	2009	....	.....	....	....	.....	....	90	180,819	2009	102	202,827	1989
Louisiana	132	922,395	6988	....	.....	....	3	15,159	5053	135	937,554	6945	201	1,537,207	7648
North Louisiana	82	423,496	5165	....	.....	....	2	6,800	3400	84	430,296	5123	106	568,058	5359
South Louisiana	50	498,899	9978	....	.....	....	1	8,359	8359	51	507,258	9946	95	969,149	10202
Michigan	234	617,942	2641	3	12,035	4012	9	27,069	3008	246	657,046	2671	277	737,718	2663
Mississippi	121	854,253	7060	....	.....	....	....	.....	....	121	854,253	7060	132	952,714	7218
Missouri	20	27,165	1358	....	.....	....	....	.....	....	20	27,165	1358	20	27,165	1358
Montana	16	56,090	3506	....	.....	....	....	.....	....	16	56,090	3506	24	78,054	3252
Nebraska	4	14,262	3566	....	.....	....	....	.....	....	4	14,262	3566	4	14,262	3566
New Mexico	65	248,664	3826	2	12,900	6450	1	7,044	7044	68	268,608	3950	84	363,042	4322
North Carolina	1	4,044	4044	....	.....	....	....	.....	....	1	4,044	4044	1	4,044	4044
Ohio	66	243,011	3682	....	.....	....	....	.....	....	66	243,011	3682	94	336,545	3580
Oklahoma	299	1,337,128	4472	....	.....	....	....	.....	....	299	1,337,128	4472	410	1,821,217	4442
South Dakota	1	4,950	4950	....	.....	....	....	.....	....	1	4,950	4950	1	4,950	4950
Tennessee	4	4,923	1231	....	.....	....	....	.....	....	4	4,923	1231	4	4,923	1231
Texas	1,203	5,649,557	4696	33	251,636	7625	17	105,107	6183	1,253	6,006,300	4793	1,536	7,795,316	5075
East Texas Border	19	123,846	6518	....	.....	....	2	16,659	8330	19	123,846	6518	29	195,273	6734
Rest of Eastern Texas	66	346,881	5256	4	37,123	9281	2	12,732	6366	72	400,663	5565	83	490,579	5911
North Texas	305	853,725	2799	7	30,011	4287	....	.....	....	314	896,468	2855	370	1,144,891	3094
West Central Texas	123	359,977	2927	4	16,315	4079	8	41,445	5181	127	376,292	2963	154	462,001	3000
West Texas	192	1,045,270	5444	13	115,418	8878	....	.....	....	213	1,202,133	5644	268	1,594,303	5949
Texas Panhandle	9	47,181	5242	1	6,709	6709	3	27,314	9105	10	53,890	5389	10	53,890	5389
Gulf Coast, Upper	141	1,071,398	7599	4	46,060	11515	....	.....	....	148	1,144,772	7735	207	1,609,373	7775
Gulf Coast, Lower	178	1,103,060	6197	....	.....	....	1	4,109	4109	178	1,103,060	6197	226	1,461,361	6466
Southwest Texas	118	498,425	4224	....	.....	....	1	2,848	2848	119	502,534	4223	131	552,796	4220
South Central Texas	52	199,794	3842	....	.....	....	....	.....	....	53	202,642	3823	58	230,849	3950
Utah	....	.....	....	....	.....	....	....	.....	....	....	.....	....	....	.....	....
Washington	1	3,200	3200	....	.....	....	....	.....	....	1	3,200	3200	1	3,200	3200
West Virginia	....	.....	....	....	.....	....	....	.....	....	....	.....	....	....	.....	....
Wyoming	24	93,118	3880	....	.....	....	3	9,768	3256	27	102,886	3811	46	205,619	4470
United States Total, 1945	**3,444**	**14,341,798**	**4164**	**39**	**284,441**	**7293**	**36**	**183,700**	**5103**	**3,519**	**14,809,939**	**4209**	**4,337**	**18,963,093**	**4372**
U. S. Total, Earlier Years															
1944	3,424	13,463,808	3932	22	141,039	6411	73	383,802	5258	3,519	13,988,649	3975	4,324	17,832,328	4124
1943	2,932	10,647,778	3632	....	.....	....	36	164,155	4560	2,968	10,811,933	3643	3,643	13,785,234	3817
1942	2,643	9,288,828	3515	....	.....	....	....	.....	....	2,643	9,288,828	3515	3,166	11,720,603	3702
1941	3,047	9,651,013	3167	....	.....	....	....	.....	....	3,047	9,651,013	3167	3,697	12,450,478	3368
1940	2,672	8,649,828	3237	....	.....	....	....	.....	....	2,672	8,649,828	3237	3,164	10,712,651	3386
1939	2,488	7,764,816	3121	....	.....	....	....	.....	....	2,488	7,764,816	3121	2,961	9,774,484	3301
1938	2,179	7,012,901	3218	....	.....	....	....	.....	....	2,179	7,012,901	3218	2,612	9,012,457	3450
1937	1,943	7,173,550	3692	....	.....	....	....	.....	....	1,943	7,173,550	3692	2,322	8,801,201	3790

Wildcatting Success Better Than Average

Larger percent of wildcats completed in 1945 were productive than average for preceding eight years

WILDCATTING in the United States during 1945 experienced practically the same ratio of success as similar efforts during the eight preceding years. During the past year 11.6 percent of the strict wildcat tests (exclusive of new pay horizon, extension and outpost attempts) was productive of oil, gas or distillate, whereas the average for the eight years from 1937 to 1944 inclusive was a flat 11 percent.

While the nation as a whole was scoring a slightly higher percentage of strikes than in the past during 1945, the corresponding ratio of success varied considerably among different states.

Some states showed a wildcat productive ratio far above the national average of 11.6 percent. Among the states which bettered the nation's average during 1945 the following were notable: Alabama, Kansas, Louisiana, Montana, Ohio, Oklahoma, Texas and Wyoming.

On the other hand, the percentage of successful wildcat completions in other states was far below the national average. Among these were such states as Arkansas, California, Illinois, Indiana, Michigan, Mississippi, and New Mexico.

Likewise, there were states that in 1945 experienced greater wildcatting success than during the preceding eight years, and others that did not fare as well. States that had greater success in 1945 than in the 1937-44 period included: Alabama, Louisiana, Michigan, Montana, Ohio, Oklahoma, and Texas. Among the leading states that registered a smaller percentage of successful wildcats in 1945 than in the preceding eight years were Arkansas, California, Kansas, New Mexico and Wyoming.

Louisiana was one of the more successful active wildcatting regions. During 1945, a total of 19.5 percent of its wildcats produced oil, gas or distillate. This compared with an average of 14.0 percent for the preceding eight years.

Oklahoma is still a successful oil hunting ground. During the period 1937-44, the state had 17.5 percent successful wildcats and increased this to 21.1 percent during 1945.

Texas did better in 1945 than in the preceding eight years, having 12.4 percent of its wildcats productive in contrast with 10.8 for the 1937-44 period.

Kansas did not fare as well in 1945 as in the preceding eight years, but was still above the national average. Whereas 16.6 percent of the Kansas wildcats produced during 1937-44, the state experienced a ratio of 15.4 percent during 1945.

Ratio of Wildcatting to all Drilling and Proportion of Wildcats Discovering New Fields, by Districts, 1937-1945

STATE OR DISTRICT	EIGHT YEARS, 1937-1944						YEAR 1945					
		*STRICT WILDCATS						*STRICT WILDCATS				
		Total			Productive			Total			Productive	
	Total Wells Drilled (All Classes)	Number	Percent of All Wells	Dry	Number	Percent of All Strict Wildcats	Total Wells Drilled (All Classes)	Number	Percent of All Wells	Dry	Number	Percent of All Strict Wildcats
Alabama	67	67	100.0	66	1	1.5	38	23	60.5	21	2	91.3
Arizona	17	17	100.0	17	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas	1,672	386	23.1	352	34	8.8	200	42	21.0	41	1	2.4
California	10,350	1,145	11.1	1,076	69	6.0	2,090	285	13.6	280	5	1.8
Colorado	158	51	32.3	47	4	7.8	53	11	20.7	11	.....	.....
Florida	21	21	100.0	20	1	4.8	15	13	86.6	13	.....	.....
Georgia	22	22	100.0	22	.....	.....	6	6	100.0	6	.....	.....
Illinois	20,236	3,316	16.4	3,083	233	7.0	1,908	414	21.7	386	28	6.8
Indiana	2,703	680	25.2	615	65	9.6	332	95	28.6	87	8	8.4
Iowa	13	13	100.0	13	.....	.....	1	1	100.0	1	.....	.....
Kansas	15,078	2,247	14.9	1,874	373	16.6	1,757	375	21.3	317	58	15.4
Kentucky	4,143	540	13.0	479	61	11.3	658	99	15.0	90	9	9.1
Louisiana	8,851	1,151	13.0	990	161	14.0	1,087	164	15.1	132	32	19.5
North Louisiana	3,755	595	15.8	553	42	7.1	459	97	21.1	82	15	15.4
South Louisiana	5,096	556	10.9	437	119	21.4	628	67	10.6	50	17	25.4
Michigan	7,410	1,935	26.1	1,793	142	7.3	763	257	33.7	234	23	8.9
Mississippi	853	402	47.1	388	14	3.5	369	126	34.1	121	5	3.9
Missouri	384	107	27.9	103	4	3.7	48	20	41.6	20	.....	.....
Montana	1,635	107	6.5	88	19	17.8	238	21	8.8	16	5	23.8
Nebraska	234	146	62.4	143	3	2.1	5	4	80.0	4	.....	.....
New Mexico	3,955	392	9.9	338	54	13.8	425	69	16.2	65	4	5.8
New York	7,994	.....	.....	.....	.....	.....	1,138	.....	.....	.....	.....	.....
North Carolina	.....	.....	.....	.....	.....	.....	1	1	100.0	1	.....	.....
North Dakota	1	1	100.0	1	.....	.....	.....	.....	.....	.....	.....	.....
Ohio	9,195	117	1.3	96	21	17.9	1,023	81	7.9	66	15	18.5
Oklahoma	16,214	1,763	10.9	1,454	309	17.5	2,351	379	16.1	299	80	21.1
Pennsylvania	26,541	.....	.....	.....	.....	.....	2,929	.....	.....	.....	.....	.....
South Carolina	4	4	100.0	4	.....	.....	.....	.....	.....	.....	.....	.....
South Dakota	3	3	100.0	3	.....	.....	1	1	100.0	1	.....	.....
Tennessee	137	85	62.0	79	6	7.1	4	4	100.0	4	.....	.....
Texas	72,646	9,081	12.5	8,099	982	10.8	7,409	1,373	18.5	1,203	170	12.4
East Texas Border	115	19	16.5	19	.....	.....	128	29	22.6	19	10	34.5
East Texas Field	5,557	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rest of East Texas	3,573	860	24.1	819	41	4.8	268	71	26.5	66	5	7.0
North Texas	14,427	1,722	11.9	1,457	265	15.4	1,850	337	18.2	305	32	9.5
West Central Texas	3,812	953	25.0	844	109	11.4	482	143	29.6	123	20	14.0
West Texas	15,523	972	6.3	851	121	12.4	1,732	216	12.5	192	24	11.1
Texas Panhandle	4,096	51	1.2	46	5	9.8	588	9	1.5	9	.....	.....
Gulf Coast, Upper	7,678	937	12.2	826	111	11.8	713	172	24.1	141	31	18.0
Gulf Coast, Lower	8,909	1,333	15.0	1,144	189	14.2	1,078	214	19.8	178	36	16.8
Southwest Texas	6,661	1,368	20.5	1,263	105	7.7	476	125	26.2	118	7	5.6
South Central Texas	2,295	866	37.7	830	36	4.2	95	57	60.0	52	5	8.8
Utah	12	6	50.0	6	.....	.....	.....	.....	.....	.....	.....	.....
Virginia	1	1	100.0	.....	1	100.0	.....	.....	.....	.....	.....	.....
Washington	.....	.....	.....	.....	.....	.....	1	1	100.0	1	.....	.....
West Virginia	6,125	4	0.1	2	2	50.0	803	.....	.....	.....	.....	.....
Wyoming	1,025	154	15.0	77	77	50.0	193	30	15.5	24	6	20.0
Total United States	217,700	23,964	11.0	21,328	2,636	11.0	25,846	3,895	15.1	3,444	451	11.6

* Exclusive of all tests seeking new pay zones or outposts attempting to extend known fields.

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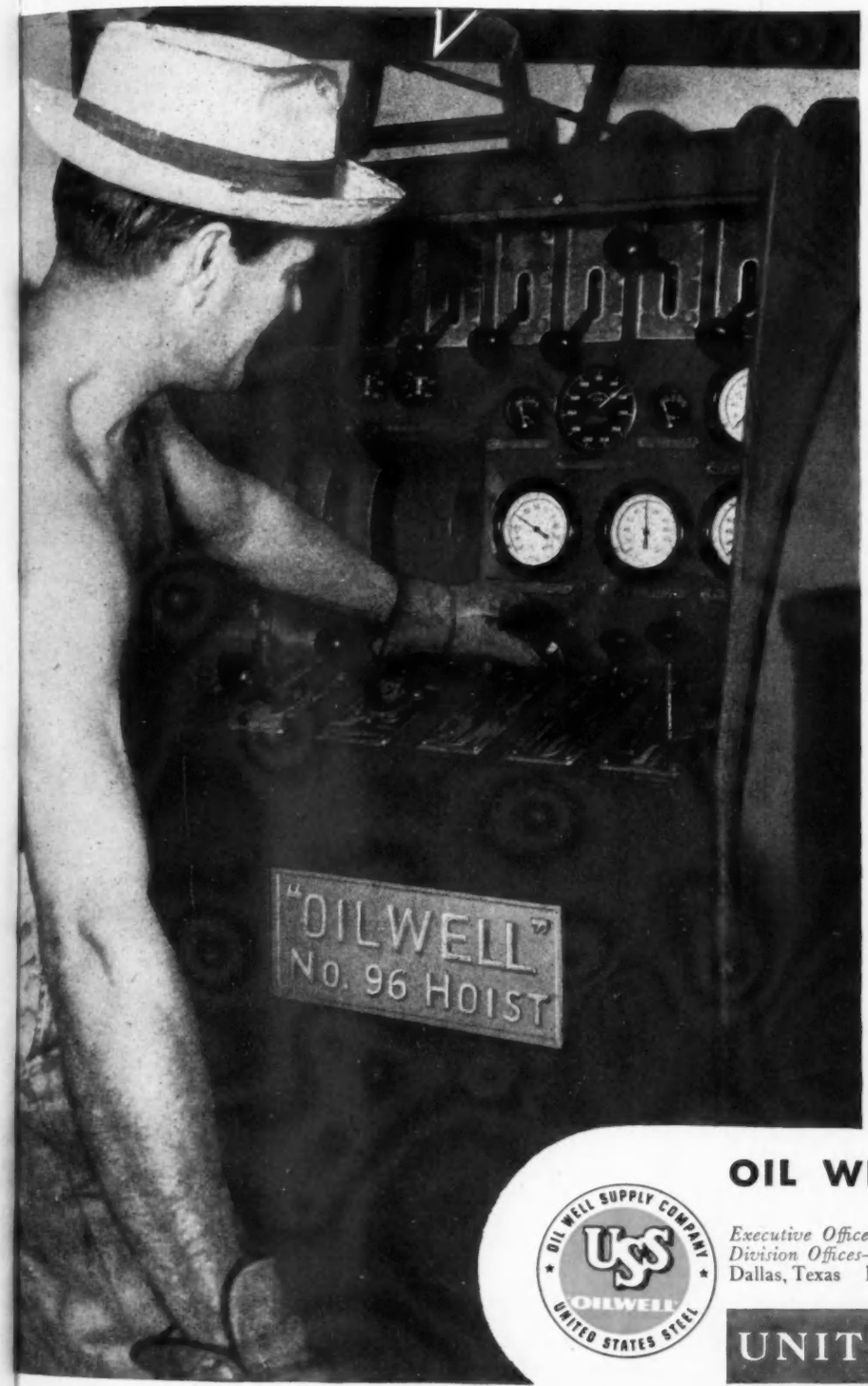

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Who Is Drilling the Wildcats?

DURING 1945 32 companies accounted for 28.82 percent of the total wells drilled in the nation and during the same period drilled 27.2 percent of all the exploratory wells, including wildcats, extensions and new pays.

Of the 7308 wells drilled during the year by the 32 oil companies, 16.1 percent were exploratory wells as compared with 17.5 percent of the 18,046 wells drilled by the remainder of the industry. Even with this lower percentage, the 32 companies had the larger percentage of productive completions in exploratory drilling. Of the 1178 exploratory wells drilled in 1945 by the 32 companies, 24.7 percent were completed as producers as compared with only 16.7 percent of the 3159 wells drilled by the remainder of the industry.

This clearly indicates that the smaller firms are simply getting more dry holes by drilling more wells but by drilling relatively more wildcat tests, they have succeeded in uncovering their proportionate share of the new fields.

At the same time, this also reflects the work on the exploration division of the larger concerns and the lack of technical advice in some of the wildcatting ventures of smaller concerns.

Thirty-two companies account for 28 percent of all wells completed, and for 27 percent of the exploratory tests in 1945

In oil and gas discoveries the large and small companies both had success closely in proportion to their total drilling, while the large companies predominated in the opening of new distillate pools.

Narrowed down to strict wildcat drilling, the 32 large companies accounted for 1011 test or 26 percent of the total wildcats drilled in the nation, as compared with 2884 tests or 74 percent for the remainder of the industry. However, 14.9 percent of those drilled by the 32 large companies proved productive as compared with only 10.4 percent for the other operators. For the industry as a whole, 11.6 percent of the total strict wildcats drilled were successful in discovering new fields. This indicates that smaller and larger companies are about equally successful in relation to their total drilling, in opening new producing areas.

Individual data of the 32 companies combined reveal widely varied results. Some of the companies have had experience closely approaching the nation's average, while others have fallen below or spurted above.

Exploratory Wells Drilled in U. S. in 1945, by Some Larger Companies and Rest of Industry

(Statistical data presented here compiled from The OIL WEEKLY's completion and exploratory drilling records. Partnership well is ascribed to company whose name is first on drilling report, this precedence usually signifying predominant interest. This procedure tends to compensate, furthermore, for other partnership wells of a company in which its name does not appear first.)

COMPANY	All New Wells Completed	Exploratory Wells Completed					CLASS OF PRODUCTION PROVED									‡Strict Wildcats Completed				
		Total		*Dry	†Productive		Oil			Distillate			Gas			Total		Dry	Productive	
		Number	% of All Wells		Number	% of Total Exploratory	New Fields	New Pays	Extensions	New Fields	New Pays	Extensions	New Fields	New Pays	Extensions	Number	% of All New Wells		Number	% of Total Strict Wildcats
Amerada Petroleum Corp.	147	34	23.1	25	9	26.5	3	3	..	..	1	..	2	..	..	30	20.4	25	5	16.7
Arkansas Fuel Oil Co.	28	8	28.6	7	1	12.5	..	..	..	..	..	..	..	1	..	7	25.0	7	....	....
Atlantic Refining Co.	95	21	22.1	13	8	38.1	3	..	1	1	1	..	2	..	..	19	20.0	13	6	31.6
Barnsdall Oil Co.	61	12	19.7	8	4	33.3	..	2	..	..	1	1	..	..	..	8	13.1	8	....	....
Carter Oil Co.	182	35	19.2	27	8	22.8	4	..	3	..	..	..	1	..	..	32	17.6	27	5	15.6
Cities Service Oil Co.	124	14	11.3	9	5	35.7	4	..	..	..	..	..	1	..	..	14	11.3	9	5	35.7
Continental Oil Co.	336	49	14.6	36	13	26.5	7	2	2	1	1	..	..	..	..	42	12.5	34	8	19.0
Deep Rock Oil Co.	59	15	25.4	8	7	46.7	3	1	1	..	..	..	2	..	..	13	22.0	8	5	38.5
General Petroleum Corp.	87	12	13.8	11	1	8.3	..	..	1	..	..	..	..	..	..	11	12.6	11	....	....
Gulf Oil Corp.	544	65	11.9	50	15	23.1	9	1	3	2	..	..	..	..	..	57	10.5	46	11	19.3
Humble Oil & Refg. Corp.	548	85	15.5	66	19	22.3	7	9	..	1	..	..	1	1	..	71	12.9	62	9	12.7
Lion Oil Refining Co.	50	18	36.0	14	4	22.2	..	1	..	..	..	..	2	..	1	15	30.0	13	2	13.3
Magnolia Petroleum Co.	348	71	20.4	47	24	33.8	9	3	4	3	2	..	2	1	..	59	16.9	45	14	23.7
Mid-Continent Pet. Corp.	100	14	14.0	13	1	7.1	..	1	..	..	..	..	..	..	..	13	13.0	13	....	....
Ohio Oil Co.	165	25	15.2	20	5	20.0	2	2	..	..	..	..	1	..	..	22	13.3	19	3	13.6
Phillips Petroleum Co.	660	55	8.3	42	13	23.6	4	..	4	1	..	..	3	1	..	47	7.1	40	7	14.9
Plymouth Oil Co.	29	7	24.1	7	....	....	..	..	..	..	..	..	..	..	..	7	24.1	7	....	....
Pure Oil Co.	315	57	18.1	37	20	35.1	5	4	8	2	..	..	1	..	..	44	13.9	36	8	18.2
Seaboard Oil Co.	33	13	39.4	10	3	23.1	2	..	..	1	..	..	..	..	..	12	36.4	9	3	25.0
Shell Oil Co. (Incl. Calif.)	289	53	18.3	32	21	39.6	4	7	5	2	..	..	2	..	1	39	13.5	31	8	20.5
Sinclair Oil Corp. (Sinclair-Prairie; Sinclair-Wyoming)	233	59	25.3	50	9	15.2	3	3	1	1	..	1	..	..	..	53	22.7	49	4	7.5
Skelley Oil Co.	196	34	17.3	27	7	20.6	2	2	..	1	..	..	1	1	..	30	15.3	26	4	13.3
Sohio Petroleum Co.	189	42	22.2	36	6	14.3	..	..	..	..	..	..	3	3	..	39	20.6	36	3	7.7
Stanolind Oil & Gas Co.	307	53	17.2	36	17	32.1	6	2	2	..	1	1	2	..	3	44	14.3	36	8	18.2
Standard Oil Co. of Calif.	524	29	5.5	28	1	3.4	..	..	..	..	..	..	1	..	..	29	5.5	28	1	3.4
Standard Oil Co. of Texas	54	9	16.6	8	1	11.1	..	..	..	..	..	1	..	..	..	6	11.1	6	....	....
Sun Oil Co.	367	57	15.5	46	11	19.3	3	5	1	1	1	..	..	..	..	48	13.1	44	4	8.3
Sunray Oil Co.	54	11	20.4	9	2	18.2	1	1	..	..	..	..	..	..	..	‡10	18.5	9	1	10.0
Superior Oil Co., of Calif.	123	18	14.6	13	5	27.8	1	1	1	1	..	1	..	..	..	15	12.2	13	2	13.3
The Texas Company	710	157	22.1	116	41	26.1	13	7	11	3	1	..	4	1	1	136	19.2	115	20	14.7
Tide Water Associated Oil Co.	168	20	11.9	15	5	25.0	2	2	..	..	..	1	..	..	..	17	10.1	15	2	11.8
Union Oil Co. of Calif.	183	26	14.2	21	5	19.2	2	2	1	..	..	..	..	..	..	22	12.0	20	2	9.1
Total, 32 Companies	7,308	1,178	16.1	887	291	24.7	99	61	49	21	9	6	31	9	6	1,011	13.8	860	151	14.9
(Percent of U. S. Total)	28.8	27.2	....	25.2	35.6	....	31.4	38.6	31.8	70.0	64.3	100.0	29.2	60.0	30.0	26.0	....	25.0	33.5	....
Rest of Industry	18,406	3,159	17.5	2,632	527	16.7	216	97	105	9	5	..	75	6	14	2,884	16.0	2,584	300	10.4
(Percent of U. S. Total)	71.2	72.8	....	74.8	64.4	....	68.6	61.4	68.2	30.0	35.7	..	70.8	40.0	70.0	74.0	....	75.0	66.5	....
Total United States	25,354	4,337	17.1	3,519	818	18.9	315	158	154	30	14	6	106	15	20	3,895	15.4	3,444	451	11.6

* Besides dry wildcats, this column includes dry outposts and dry new pay tests; however, for whole industry about 97 percent of total shown are strictly wildcats.
† In addition to discovery wells of entirely new fields this column includes successful outposts or major extension wells and wells proving new pays, as shown in detail in columns to the right.
‡ Exclusive of all tests seeking new pay zones or attempting to extend known fields.

Large Number of Rigs in Operation

Practically same number of rigs in use as a year ago, and more than when wartime restrictions hit industry

A LARGE number of drilling rigs were in actual operation in the United States at the beginning of 1946, the total being practically the same as a year ago.

Rigs in operation, including those drilling, rigged up and shutdown, as the year began totaled 4637. Although this represented a decline of 46 from the January 1, 1945, total, it is larger than the number in use at the beginning of other recent years. Furthermore, it is necessary to consider that the number of rigs actually operating at any one time normally fluctuate considerably, and that unfavorable weather experienced through a large part of the oil region of the United States during December could have influenced the number of operations listed on drilling reports to this extent.

The figure of 4637 rigs in operation gains significance when compared with those of previous years.

On January 1, 1942, a few days after wartime restrictions were clamped on the industry, there were 4336 rigs in operation, or almost 300 fewer than now. A year after the beginning of the war, the number of rigs in operation had dwindled to 2797, but by January 1, 1944, the figure had made a steady comeback to 3595 rigs in use. The figure for January 1, 1945, was 4683.

The fact that the number of tests completed during 1945 remained well below the level of 1941 although the number of rigs in operation is at a high level, bears out the oft-repeated statement that drilling efficiency has declined. Because of less experienced help and worn equipment, rigs just cannot make hole as rapidly. The trend toward deeper drilling is another factor that requires more rigs to complete a given number of tests.

Of the 4637 rigs in operation at the start of 1946, a total of 2980, or 64.3 percent were of the rotary type, a decline of 3 percent from a year ago.

Texas, the most active state, of course continued to lead in number of rigs in operation. The state's total, the majority of which were rotaries, was 1202 compared with 1451 a year. West Texas was the most active spot, as it was a year ago.

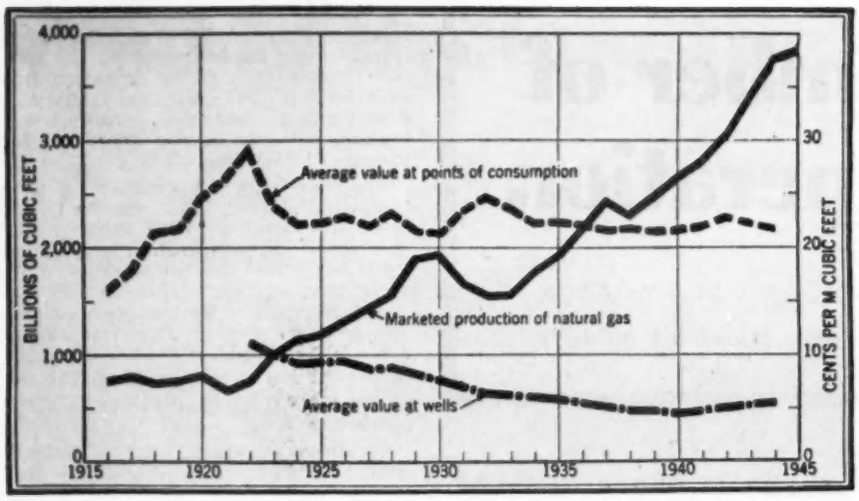
Second most active region was Oklahoma, where 529 rigs were in operation.

Rotary and Cable Tool Drilling in the United States, January 1, 1946

(Note: Cable Tool data include spudders and machines.)

STATE OR DISTRICT	DRILLING			RIGS UP			SHUT DOWN			ALL RIGS IN USE (DRILLING RIGS UP, AND SHUT DOWN)				
										Total Rotary and Cable Tool	ROTARY		CABLE TOOL	
	Rotary	Cable Tool	Total	Rotary	Cable Tool	Total	Rotary	Cable Tool	Total		Total Rotary	Rotary as Percent of Total	Total Cable Tool	Cable Tool as Percent of Total
Alabama	2	1	3	....	1	1	....	1	1	5	2	40.0	3	60.0
Arkansas	23	2	25	5	....	5	9	....	9	39	37	94.8	2	5.2
California	239	....	239	53	....	53	40	1	41	333	332	99.7	1	0.3
Colorado	54	5	59	5	....	5	10	2	12	76	69	90.8	7	9.2
Florida	7	1	8	....	....	....	....	....	....	8	7	87.5	1	12.5
Georgia	1	....	1	1	....	1	....	....	....	2	2	100.0	....	....
Illinois	190	16	206	55	10	65	18	3	21	292	263	90.1	29	9.9
Indiana	35	9	44	6	5	11	5	2	7	62	46	74.2	16	25.8
Kansas	271	18	289	17	2	19	15	1	16	324	303	93.5	21	6.5
Kentucky	31	21	52	7	5	12	2	1	3	67	40	59.7	27	40.3
Louisiana	191	....	191	4	....	4	11	....	11	206	206	100.0	....	....
North Louisiana	89	....	89	....	....	....	8	....	8	97	97	100.0	....	....
South Louisiana	102	....	102	4	....	4	3	....	3	109	109	100.0	....	....
Michigan	12	91	103	2	14	16	3	17	20	139	17	12.2	122	87.8
Mississippi	41	....	41	3	....	3	2	1	3	47	46	97.9	1	2.1
Missouri	1	3	4	....	....	....	1	3	4	8	2	25.0	6	75.0
Montana	21	32	53	2	4	6	5	8	13	72	28	38.9	44	61.1
Nebraska	1	4	5	....	....	....	....	....	....	5	1	20.0	4	80.0
New Mexico	48	44	92	1	6	7	2	2	4	103	51	49.5	52	50.5
New York	....	53	53	....	11	11	....	29	29	93	....	....	93	100.0
Ohio	....	122	122	....	60	60	....	33	33	215	....	....	215	100.0
Oklahoma	385	84	469	30	8	38	18	4	22	529	433	81.9	96	18.1
Pennsylvania	....	175	175	....	25	25	....	100	100	300	....	....	300	100.0
Tennessee	....	3	3	....	1	1	....	....	....	4	....	....	4	100.0
Texas	933	123	1,056	39	8	47	61	38	99	1,202	1,033	85.9	169	4.1
E. Tex. Border Co.'s	38	....	38	....	....	....	....	....	....	38	38	100.0	....	....
Rest of East Texas	67	....	67	4	....	4	9	....	9	80	80	100.0	....	....
North Texas	176	16	192	7	4	11	17	5	22	225	200	80.0	25	20.0
West Central Texas	31	64	95	3	3	6	8	14	22	123	42	34.1	81	65.9
West Texas	313	39	352	8	....	8	10	19	29	389	331	85.1	58	14.9
Texas Panhandle	*64	2	66	*4	1	5	*8	....	8	79	*76	96.2	3	3.8
Gulf Coast Upper	91	....	91	....	....	....	3	....	3	94	94	100.0	....	....
Guld Coast, Lower	110	....	110	8	....	8	3	....	3	121	120	100.0	....	....
Southwest Texas	25	....	25	2	....	2	2	....	2	29	29	100.0	....	....
South Central Texas	18	2	20	3	....	3	1	....	1	24	22	91.7	2	8.3
Utah	1	2	3	1	1	2	1	1	2	7	3	42.9	4	57.1
West Virginia	1	217	218	....	48	48	....	128	128	394	1	.3	393	99.7
Wyoming	43	36	79	6	4	10	9	7	16	105	58	55.2	47	44.8
Total U. S. Jan. 1 1946	2,531	1,062	3,593	237	213	450	212	382	594	4,637	2,980	64.3	1,657	35.7
Total U. S., Jan. 1, 1945	2,754	1,078	3,832	231	156	387	195	269	464	4,683	3,180	67.9	1,503	32.1

* Texas Panhandle operations shown here as rotary include combination rigs as follows: 61 drilling, 7 shut down, 68 total. Procedure in Texas Panhandle is to drill with rotary to the final casing point, then move in machine or cable tool rig to drill to the oil or gas pay. However, the wildcats do not switch to cable tools unless they get something worth setting pipe and testing.



Production and Value of Natural Gas in the United States

Record Natural Gas Production

Marketed production has doubled in past ten years, and continued expansion assured if government does not interfere

NATURAL gas production in the United States continued its sharp upward trend during 1945. The volume of marketed production exceeded 3.8 trillion cubic feet, an increase of 65 billion cubic feet over 1944. Marketed production of natural gas has doubled in the last ten years.

Consumption of natural gas, according to preliminary figures, rose to 3.8¼ trillion cubic feet, a gain of 60 billion cubic feet over the preceding year. Industrial use is the largest consumer of natural gas, accounting for almost 3 trillion cubic feet during 1945. Industrial use includes that used in factories, in carbon black plants, for generating electricity, and for oil field purposes.

Bright Outlook

The outlook for the natural gas industry is very bright, if it is allowed to follow its normal course of expansion without being overburdened with restrictive government legislation or control. This as a situation of much concern at the moment, with the Federal Power Commission making an investigation involving studies of the extent of reserves, types of use, competition with other fuels and related matters.

If its activities are not restricted, the natural gas industry, according to R. H. Hargrove, chairman of the Natural Gas Department of the American Gas Association, will spend more than $160 million for plant expansion during the first 12 postwar months. Looking to the possibility of enlarged markets, the industry has filed projects with FPC for construction of nearly 5000 miles of natural gas pipe lines, capable of transmitting 400 million additional cubic feet a day at peak movements.

The oil industry is becoming increasingly conscious of the great importance of natural gas, and in addition to the new facilities the gas industry will construct if FPC gives its approval, something like $50 million may be spent during the next year on cycling and gasoline plants. Vast improvement in the conservation of gas is indicated.

Reserves Estimate

United States' proved reserves of natural gas have been estimated by E. DeGolyer, consulting geologist, to total more than 140 trillion cubic feet at the beginning of 1945. Later in the year, DeGolyer declared 200 trillion cubic feet might be a conservative estimate. At the present rate of production, including that flared, the ratio of reserves to present consumption is better than 35 to 1.

Of the 140 trillion cubic feet of gas reserves estimated to have existed on January 1, 1945, DeGolyer placed 5 trillion cubic feet in the Eastern area, about 17 trillion in Oklahoma and Kansas, over 82 trillion in Texas, 17 trillion in Louisiana, 2¼ trillion in the Rocky Mountain region, and approximately 13 trillion in California.

Natural Gas Consumption and Marketed Production

(All figures in millions of cubic feet. Add 000,000)

YEAR	CONSUMPTION			Production Marketed	YEAR	CONSUMPTION				Production Marketed
	[1]Domestic and Commercial	Industrial	Total			Domestic	Commercial	Industrial	Total	
1918	271,000	450,000	721,000	721,000	1932	298,520	87,367	1,168,448	1,554,335	1,555,490
1919	255,743	490,173	745,916	745,916	1933	283,197	85,577	1,184,625	1,553,399	1,555,474
1920	286,001	512,209	798,210	798,210	1934	288,236	91,261	1,385,491	1,764,988	1,770,721
					1935	313,498	100,187	1,496,216	1,909,901	1,915,595
1921	248,334	413,718	662,052	662,052						
1922	254,413	508,133	762,546	762,546	1936	343,346	111,623	1,665,549	2,160,518	2,167,802
1923	277,050	729,917	1,006,967	1,006,967	1937	371,844	117,390	1,913,807	2,403,041	2,407,620
1924	285,152	856,330	1,141,482	1,141,482	1938	367,772	114,296	1,812,029	2,294,097	2,295,562
1925	272,146	916,293	1,188,439	1,188,439	1939	391,153	118,834	1,963,778	2,473,765	2,476,756
					1940	443,646	134,644	2,076,369	2,654,659	2,660,222
1926	289,175	1,023,678	1,312,853	1,303,019						
1927	296,036	1,149,208	1,445,244	1,455,428	1941	442,067	144,844	2,218,281	2,805,192	2,812,658
1928	320,877	1,247,102	1,567,979	1,568,139	1942	498,537	183,603	2,362,633	3,044,773	3,053,475
1929	359,853	1,557,598	1,917,451	1,917,693	1943	529,444	204,793	2,619,242	3,403,479	3,414,689
1930	295,700 80,707	1,565,237	1,941,644	1,943,421	1944	582,000	224,000	2,960,207	3,766,207	3,780,232
					1945	610,000	240,000	2,975,000	3,825,000	3,845,000
1931	294,406 86,491	1,303,322	1,684,219	1,686,436						

[1] Breakdown between domestic and commercial use not available prior to 1930. Source: U. S. Bureau of Mines, except for latest year, which is based on statistics of American Gas Association revised to Bureau basis by adding estimated consumption for oil field operations and carbon black purposes.

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Natural Gasoline Production Hits Peak

Daily average output reaches 300,000 barrels, double the 1940 rate

SPURRED by record demands during the first eight month of the year, United States production of natural gasoline and allied products rose to an all-time peak of 109½ million barrels during 1945, an increase of about 9.4 percent over the previous record established in 1944.

During the early months of the year, production soared to a peak of 311,000 barrels per day as compared with the annual average output of approximately 300,000 barrels daily. After V-J Day, demands for aviation gasoline and other war material produced from natural gasoline began to decline and at the end of 1945 the daily average production had dropped to about 290,000 barrels.

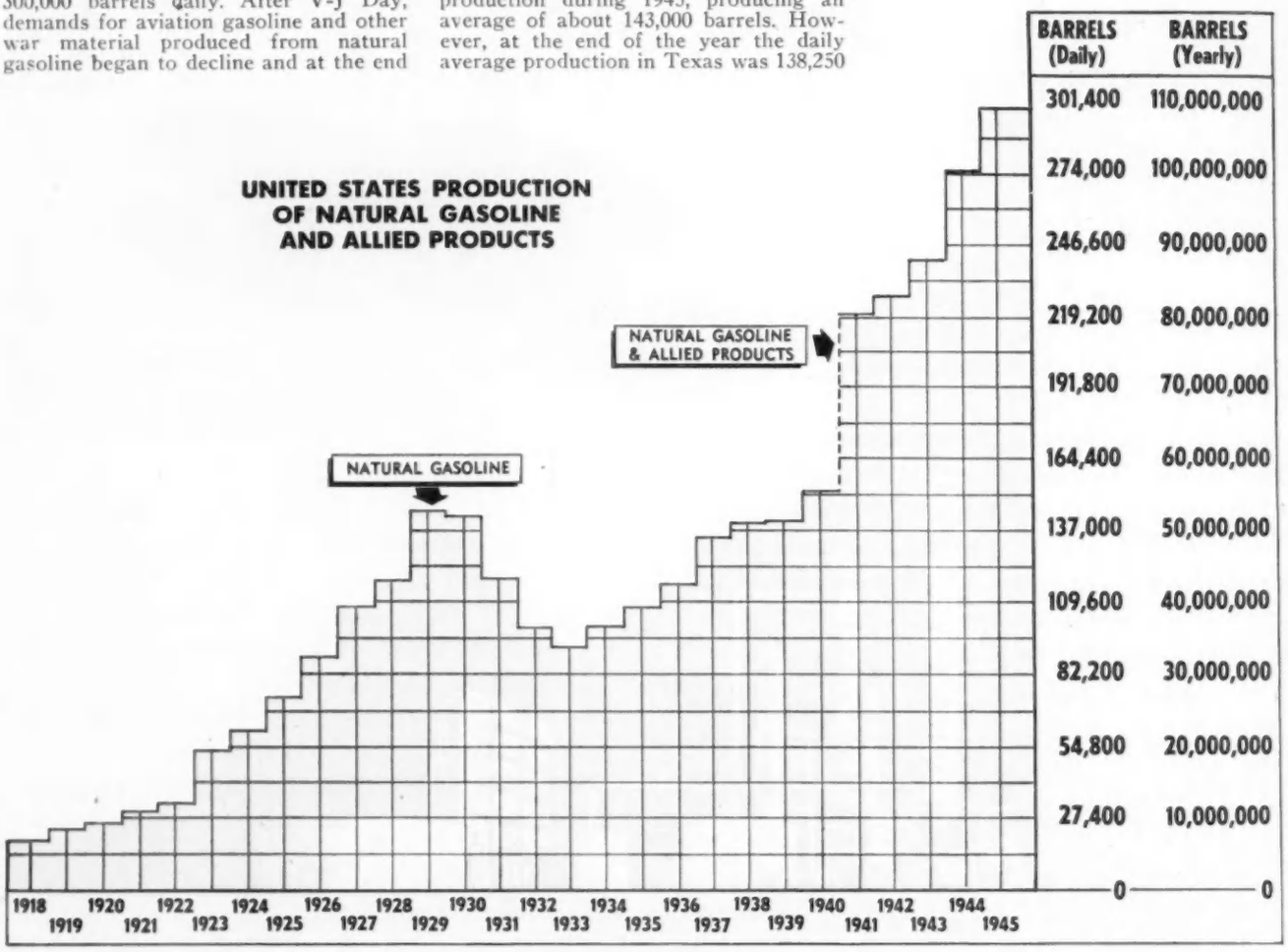
The total production in 1945 was the greatest in history; however, the percentage of increase over 1944 was not as great as the boost from 1943 to 1944. During 1944, natural gasoline production totalled 100,046,000 barrels as compared with 87,716,000 barrels in 1943 and 83,322,000 barrels in 1942.

Texas continued to pace all states in production during 1945, producing an average of about 143,000 barrels. However, at the end of the year the daily average production in Texas was 138,250 barrels daily and this compares with a daily average of 109,600 barrels at the end of 1944.

California, with a daily average of 58,000 barrels, was the second leading state. California's production at the end of the year was 54,150 barrels daily as compared with 52,500 barrels daily at the end of 1944. Oklahoma's daily average production was 27,000 barrels.

Production during the first half of 1946 is expected to continue to rise with the output in January, 1946, estimated at 310,000 barrels. Some of the construction started in 1945 will be placed into operation in 1946 and the new construction program this year, which will involve large expenditures, will be greater than that last year. Production may be so out of balance with consumptive requirements as to cause price difficulties.

The over-all national program to conserve natural gas through recycling and expansion of natural gas lines will play a major role in keeping the flow of natural gasoline at peak levels during 1946.



(All Figures in Barrels)

YEAR	Annual Production	Daily Average	YEAR	Annual Production	Daily Average	YEAR	Annual Production	Daily Average	YEAR	Annual Production	Daily Average
1918	6,727,000	18,430	1925	26,845,000	73,547	1932	36,281,000	99,400	1939	51,650,000	141,507
1919	8,370,000	22,931	1926	32,455,000	88,917	1933	33,810,000	92,630	1940	55,700,000	152,502
1920	9,161,000	25,098	1927	39,075,000	107,054	1934	36,556,000	100,153	(*) Natural Gasoline and Allied Prod.		
1921	10,713,000	29,350	1928	43,191,000	118,331	1935	39,333,000	107,761	1941	80,855,000	221,520
1922	12,044,000	32,997	1929	53,183,000	145,706	1936	42,770,000	117,178	1942	83,322,000	228,279
1923	19,434,000	53,243	1930	52,631,000	144,194	1937	49,177,000	134,731	1943	87,716,000	240,318
1924	22,235,000	60,197	1931	43,617,000	119,498	1938	51,347,000	140,676	1944	100,046,000	273,350
									1945	109,500,000	300,000

* Bureau began a new series covering 1941 and subsequent years, which inculdes some cycle condensate.

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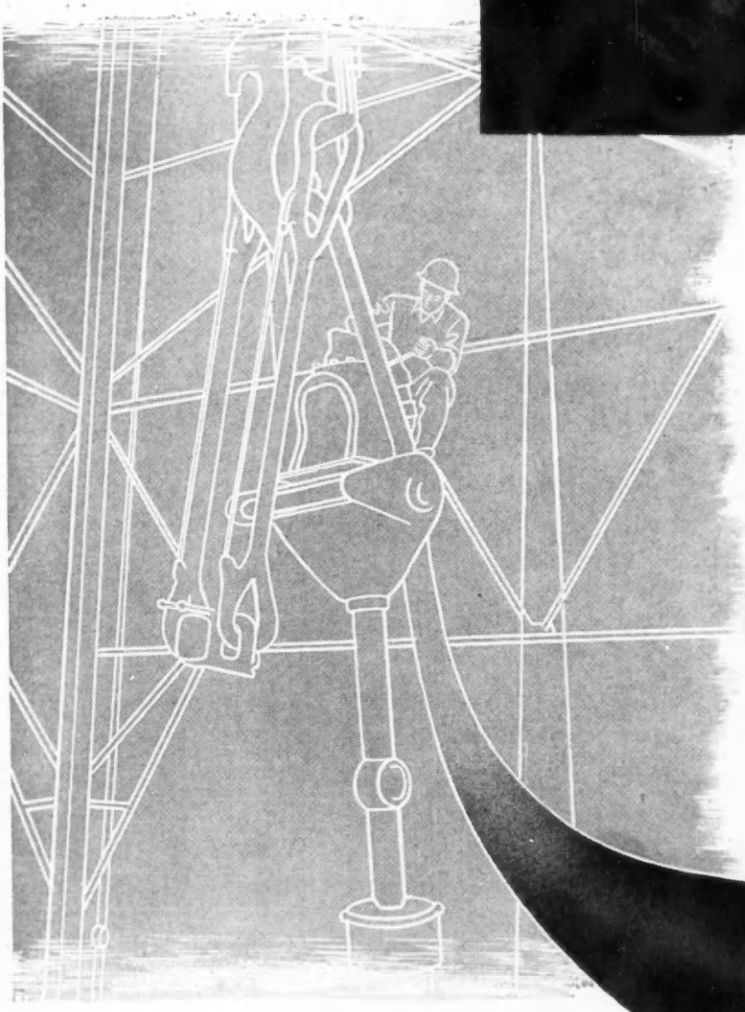

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Sharp Increase in Producing Oil Wells

Number of producing oil wells at new peak the end of 1945. Daily output per well below a year ago. Number of flowing wells increases.

PRODUCING oil wells in the United States continued to increase during 1945, consequently, the nation had a record number of producing wells at the end of the year. The rate of gain was materially higher than in preceding war years, although not quite back to normal peacetime additions.

The number of producing oil wells was boosted from 412,851 at the end of 1944 to 421,433 at the close of 1945, a gain of 8582 wells. This was the greatest increase in completions recorded during the war period, but below the 10,066 added in 1941 and slightly under the ten-year average increase from 1931 to 1941, which was 8773.

During the year there were actually 13,737 new oil producing wells completed. The growth of only 8582 wells in total number producing indicated that 5155 were abandoned or shut in. This was fewer abandonments than in preceding recent years.

Fewer abandonments during 1945 probably were the result of several factors. One reason was an effort to fulfill the unusually large demand. Subsidy payments undoubtedly kept many stripper wells on the producing list, it being estimated that more than 300,000 of the

Producing Oil Wells End of 1945: Output Per Well; Number of Flowing Wells

Data include wells producing crude oil and condensate

(Compiled by The Oil Weekly, with cooperation of state conservation departments and other collaborators.)

	FLOWING OIL WELLS			OIL WELLS PRODUCING BY ARTIFICIAL LIFT			TOTAL PRODUCING OIL WELLS			DAILY AVERAGE PRODUCTION PER WELL AT END OF YEAR		
	End of 1944	End of 1945	Percent Change	End of 1944	End of 1945	Percent Change	End of 1944	End of 1945	Percent Change	1944	1945	Percent Change
Alabama				8	27	+237.5	8	27	+237.5	28.3	25.7	— 9.2
Arkansas	467	507	+ 8.6	2,703	2,766	+ 2.3	3,170	3,273	+ 3.2	25.5	31.4	+ 23.1
California	1,723	1,889	+ 9.6	19,532	19,857	+ 1.7	21,255	21,746	+ 2.3	41.6	38.8	— 7.2
San Joaquin Valley	914	1,083	+ 18.5	11,064	11,154	+ 0.8	11,978	12,237	+ 2.2	36.1	32.6	— 9.7
Coastal District	402	430	+ 7.0	1,662	1,681	+ 1.1	2,064	2,111	+ 2.3	69.0	68.1	— 1.3
Los Angeles Basin	407	376	— 7.6	1,806	7,022	+ 88.8	7,213	7,398	+ 2.6	42.8	40.6	— 5.1
Colorado	29	70	+141.4	159	173	+ 8.8	188	243	+ 29.3	57.1	91.8	+ 78.3
Florida				1	2	+100.0	1	2	+100.0	33.0	37.5	+ 13.6
Illinois	225	205	— 8.9	26,837	27,710	+ 3.3	27,062	27,915	+ 3.2	7.4	7.3	— 1.4
Indiana				1,885	2,379	+ 26.2	1,885	2,379	+ 26.2	6.7	5.5	— 17.9
Kansas	170	174	+ 2.4	26,080	25,518	— 2.2	26,250	26,692	+ 1.7	10.3	9.4	— 8.7
Kentucky				14,548	14,741	+ 1.3	14,548	14,741	+ 1.3	2.2	2.1	— 4.5
Louisiana	2,692	3,343	+ 24.2	4,486	4,467	— 0.4	7,178	7,810	+ 8.8	49.3	47.6	— 3.4
North Louisiana	615	840	+ 36.6	3,500	3,489	— 0.3	4,115	4,329	+ 5.2	15.6	17.7	+ 13.5
South Louisiana	2,077	2,503	+ 20.5	986	978	— 0.4	3,063	3,481	+ 13.6	94.6	84.8	— 10.4
Michigan	253	300	+ 18.6	3,196	3,184	— 0.4	3,449	3,534	+ 2.5	14.8	13.9	— 6.1
Mississippi	32	205	+540.6	443	437	— 1.4	475	642	+ 35.2	107.3	84.5	— 21.2
Missouri				38	36	— 5.3	38	36	— 5.3	2.6	3.6	+ 38.5
Montana		31	+ 82.4	2,213	2,411	+ 8.9	2,230	2,442	+ 9.5	9.6	9.9	+ 3.1
Nebraska	17			79	70	— 11.4	79	70	— 11.4	13.1	10.7	— 18.3
New Mexico				1,253	1,542	+ 23.1	3,989	4,364	+ 9.4	26.0	22.6	— 13.1
New York	2,736	2,822	+ 3.1	22,375	21,625	— 3.4	22,375	21,625	— 3.4	0.5	0.6	+ 20.0
Ohio				22,932	23,029	+ 0.4	22,980	23,072	+ 0.4	0.3	0.3	
Oklahoma		46	— 4.2	51,484	51,362	— 0.2	52,374	52,699	+ 0.6	6.9	7.3	+ 10.1
Pennsylvania	48	1,337	+ 50.2	82,911	83,230	+ 0.4	82,911	83,230	+ 0.4	0.4	0.4	
Tennessee	890			25	24	— 4.0	25	24	— 4.0	1.3	1.5	+ 15.4
Texas				61,540	65,699	+ 6.8	99,252	103,613	+ 4.4	21.5	18.5	— 14.0
	37,712	37,914	+ 0.5									
East Texas Field	15,614	14,767	— 5.4	8,623	9,273	+ 7.5	24,237	24,040	— 8.0	15.3	12.8	— 16.3
Rest of East Texas	1,208	1,457	+ 20.6	2,736	3,012	+ 10.1	3,944	4,469	+ 13.3	35.9	29.5	— 17.8
North Texas	2,146	2,009	— 6.4	24,106	25,289	+ 4.9	26,252	27,298	+ 4.0	5.6	5.5	— 1.8
West Texas	8,250	8,432	+ 2.2	7,979	9,915	+ 19.3	16,229	17,951	+ 10.6	25.9	25.9	— 11.0
Panhandle	29	47	+ 62.1	5,792	5,869	+ 1.3	5,821	5,916	+ 1.6	29.1	13.7	— 10.5
Gulf Coast, Upper	6,022	6,282	+ 4.3	3,089	3,312	+ 7.2	9,111	9,594	+ 5.3	15.3	48.8	— 19.6
Gulf Coast, Lower	3,311	3,681	+ 11.2	1,451	1,608	+ 10.8	4,762	5,289	+ 11.1	60.7	41.5	— 19.9
Southwest Texas	1,069	1,174	+ 9.8	4,778	4,740	— 0.8	5,847	5,914	+ 1.1	51.8	13.1	— 3.0
South Central Texas	63	65	+ 3.2	2,986	3,077	+ 2.0	3,049	3,142	+ 3.1	13.5	5.4	— 18.2
West Virginia				17,330	17,268	— 0.4	17,330	17,268	— 0.4	0.4	0.4	
Wyoming	197	195	— 1.0	3,602	3,788	+ 5.2	3,799	3,983	+ 4.8	25.3	21.6	— 14.6
Total United States	47,191	49,088	+ 4.0	365,660	372,345	+ 1.8	412,851	421,433	+ 2.1	11.4	10.7	— 6.1

421,433 wells producing were drawing subsidies from the government. Progress in recovery methods also was a factor.

Indicated producing well abandonment and shut in rates for recent years follow:

1944	7825
1943	9217
1942	7276
1941	9406
1940	6099
1939	6937
1938	11,934
1937	8901

Despite the production of a record quantity of crude, the daily average production per producing wells in 1945 was below the level of 1944, indicating that the growth in number of wells was more rapid than the gain in production. The per well daily average production during 1945 was 10.7 barrels compared with 11.2 in 1944.

The number of flowing wells increased sharply from 47,191 in 1944 to 49,088 in 1945, a gain of 4 percent. Mean-

Number of producing wells in individual fields at end of 1945 begin on page 204.

time, a slight boost was registered in oil wells producing by artificial lift. In 1944, the total number of wells in this category was 365,660 as compared with 372,345 at the end of 1945, a rise of 1.8 percent. The over-all increase in oil wells was 2.1 percent as compared with 1.3 percent in 1944.

Widespread Increase

All but five of the oil-producing states showed an increase in the number of producing wells. States showing a decline included Missouri, Nebraska, New York, Tennessee and West Virginia.

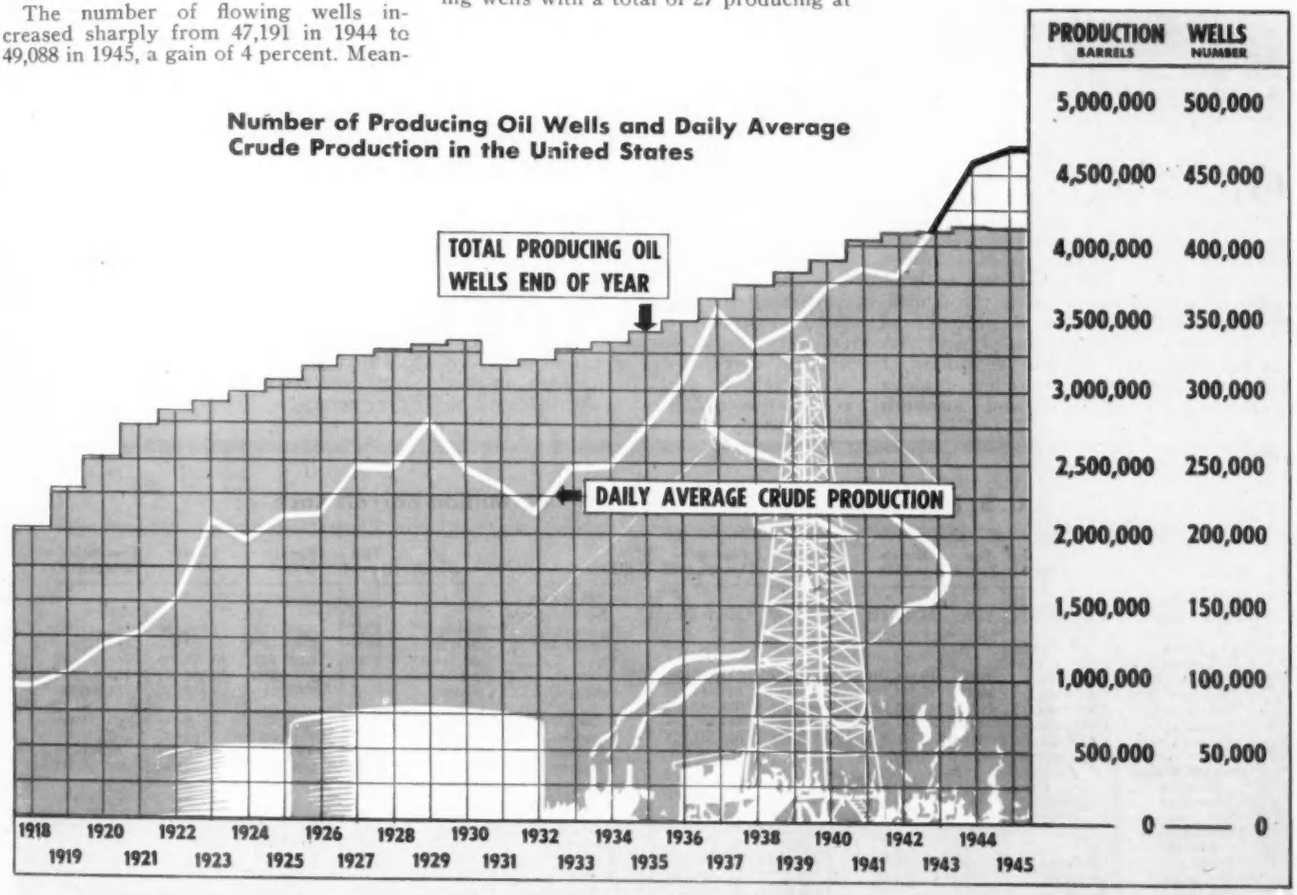
Notable increases were chalked up by Alabama, Florida, Mississippi and Indiana. Alabama showed an increase of 237.5 percent in the number of producing wells with a total of 27 producing at the end of 1945. Florida increased from one well in 1944 to two wells in 1945.

Mississippi showed a boost of 35.2 percent with 642 wells producing at the end of 1945 as compared with 475 at the end of 1944. Indiana's number was boosted from 1885 in 1944 to 2379 at the end of 1945.

Texas showed a gain of 4.4 percent with a total of 103,613 wells producing at the end of 1945 as compared with 99,252 at the end of 1944. Accounting for the gains in Texas were East Texas outside of the East Texas field, West Texas and the Lower Texas Coast. The East Texas field proper dropped from 24,237 wells producing at the end of 1944 to 24,040 wells at the end of 1945.

Oklahoma's number of producing wells was about stationary with 52,699 wells producing at the close of 1945 as compared with 52,374 at the end of 1944. Kansas, California and Pennsylvania showed about the same increase.

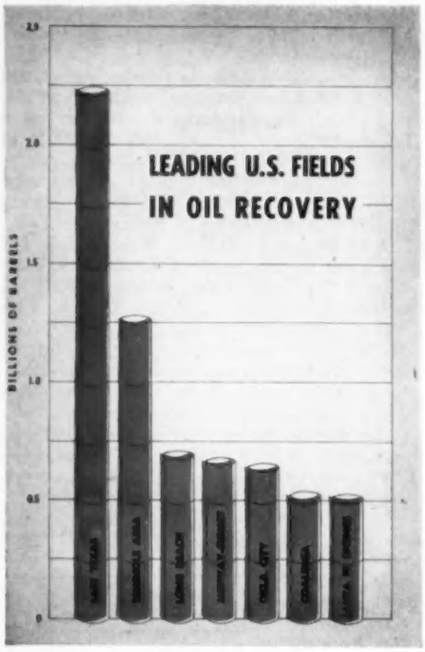
Number of Producing Oil Wells and Daily Average Crude Production in the United States



YEAR	Number of Producing Oil Wells At End of Year	Gain In No. Producing Oil Wells	New Oil Wells Completed in Year	Production Per Well Per Day During Year
1918	203,375	.....	17,845	.....
1919	227,000	23,625	21,052	4.8
1920	251,000	24,000	24,273	5.0
1921	274,500	23,500	14,666	4.9
1922	284,880	10,380	17,333	5.7
1923	290,100	5,220	13,407	6.6
1924	299,100	9,000	14,311	6.2
1925	306,100	7,000	16,162	6.5
1926	318,600	12,500	17,787	6.8
1927	323,300	4,700	13,396	7.7
1928	327,800	4,500	10,982	7.6
1929	328,200	400	13,125	8.4
1930	331,070	2,870	10,745	7.5
1931	315,850	†15,220	6,618	7.2
1932	321,500	5,650	10,151	6.7
1933	326,850	5,350	7,828	7.7
1934	333,070	6,220	13,066	7.5
1935	340,990	7,920	15,301	8.1
1936	349,450	8,460	18,432	8.7
1937	363,030	13,580	22,481	9.8
1938	369,640	6,610	18,544	9.1
1939	380,390	10,750	17,687	9.2
1940	393,516	13,126	19,225	9.5
1941	403,582	10,066	19,472	9.7
1942	407,257	3,675	10,942	9.3
1943	407,581	324	9,541	10.1
1944	412,851	5,270	13,095	11.2
1945	421,433	8,582	13,737	10.7

† Only decrease of recent time, reflecting abandonment or shutting in of many wells when early chaotic development of East Texas field, coupled with business depression, severely depressed crude prices.

SOURCE: Producing well data for 1918-1939 from U. S. Bureau of Mines, with more recent years by The Oil Weekly with cooperation of state conservation officials and others. Completion data since 1923 from records of The Oil Weekly, earlier years from Bureau of Mines. Daily average production per well obtained by dividing daily average production of nation for year by average number of wells producing during year, that is, between January 1 and December 31.



Fifty-Three Fields Have Produced 100 Million Barrels

Most of big recovery fields in California, Texas and Oklahoma. East Texas far ahead.

ONLY 53 fields in the United States have produced 100 million barrels or more during their productive life. California leads with 19 such fields, followed by Texas with 14 and Oklahoma with 13.

Louisiana has 2 (including the Rodessa field which also entends into Texas and Arkansas), Illinois has 2, and Arkansas, New Mexico and Wyoming, 1 each. Such prolific producing regions as Kansas, Pennsylvania and Southern Louisiana are without a single field that has recovered 100 million barrels.

Four additional fields surpassed the 100 million mark in 1945. These were Hastings, Wasson and Hull of Texas, and Seal Beach, Calif.

The East Texas field continues to grow more famous as a producer of crude, constantly establishing larger records that appear unlikely to be exceeded by any currently known pool.

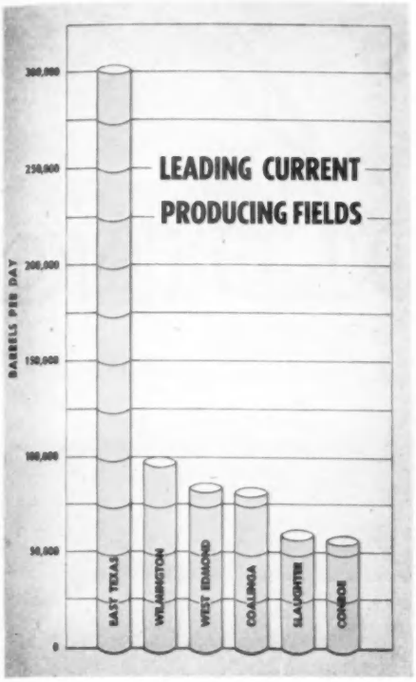
During 1945, East Texas produced 3½ times more oil than any other United States field, marking the 14th consecutive year that this field has held the leadership in annual output. This producing rate boosted the fields cumulative recovery since discovery in 1930 to a volume three times greater than any other field in the nation. This unusual recovery record is made all the more remarkable because East Texas is so much younger than other fields that can boast of big accumulated output.

No other field has produced a billion barrels of oil, unless the recoveries of all the field comprising the Seminole area of Oklahoma are added together. This has not been done in the accompanying tabulation, because there are other regions in the United States that could be so treated also. The 19-year old Seminole group of fields, which includes five individual fields with recoveries in excess of 100 million barrels each, built its recovery to date to 1,253,172,734 barrels after producing 21 million barrels during 1945.

The 24-year old Long Beach field of California actually ranks second in cumulative recovery, unless the output of the Seminole area pools is combined.

U. S. Fields That Have Produced Over 100 Million Barrels Each

FIELD	State or District	Year Found	Barrels in 1944	Barrels in 1945	Cumulative Through 1945
No 1 Field:					
East Texas	East Texas	1930	135,683,412	131,064,282	2,236,183,407
½-¾ Billion Barrels:					
Long Beach	California	1921	10,874,894	9,840,448	712,456,498
Midway-Sunset	California	1900	15,244,398	14,418,492	688,481,880
Oklahoma City	Oklahoma	1928	16,235,100	12,968,085	631,882,458
Coalinga	California	1900	35,447,613	31,798,228	604,056,594
Santa Fe Spgs	California	1921	6,843,866	6,274,748	502,837,123
Over 400 Million Barrels:					
Smackover	Arkansas	1922	4,280,414	3,812,706	406,443,375
300-400 Million Barrels:					
Cushing	Oklahoma	1912	2,937,516	2,814,150	371,156,289
Huntington	California	1920	17,191,115	17,630,629	361,660,772
Salt Creek	Wyoming	1908	4,778,860	4,499,355	317,664,207
Buena Vista	California	1909	6,860,344	15,771,357	314,941,659
Kettleman	California	1928	15,122,264	14,366,275	310,068,820
Yates	West Texas	1926	12,676,930	13,391,050	301,693,938
200-300 Million Barrels:					
Kern River	California	1900	3,516,506	3,542,499	294,589,971
Ventura Ave	California	1926	17,537,808	17,724,974	291,930,665
Wilmington	California	1937	37,154,431	36,340,876	281,596,756
Glenn	Oklahoma	1905	2,131,950	2,359,360	228,307,735
Burbank	Oklahoma	1920	3,142,842	3,127,685	218,039,084
Kendricks	West Texas	1926	1,740,347	1,530,184	209,598,424
Conroe	Texas Coast	1931	23,191,757	21,368,098	206,557,353
Healdton	Oklahoma	1913	2,508,930	2,422,870	200,918,047
150-200 Million Barrels:					
Salem	Illinois	1938	8,246,712	6,637,160	192,194,100
Elk Hills	California	1919	7,672,977	15,809,776	191,060,721
Brea Olinda	California	1897	4,305,412	4,193,505	185,515,240
Caddo	N. Louisiana	1906	2,129,388	1,913,330	171,532,115
150-200 Million Barrels—Con'd					
St. Louis	Oklahoma	1927	2,593,110	1,703,455	167,344,653
Dominguez	California	1923	7,879,466	6,737,605	162,022,962
Van	East Texas	1929	11,639,585	10,948,396	160,839,624
McElroy	West Texas	1926	10,574,306	10,852,442	154,683,523
Inglewood	California	1924	6,461,481	5,652,823	151,600,641
Rodessa Total	La.-Tex.-Ark.	1935	4,848,336	4,178,013	150,211,812
Rodessa	Arkansas	1937	200,067	196,952	7,213,982
Rodessa	N. Louisiana	1935	2,958,378	2,527,625	86,271,775
Rodessa	E. Texas	1935	1,689,891	1,453,436	56,726,055
125-150 Million Barrels:					
Coyote, West	California	1934	4,455,043	5,271,152	144,017,402
Montebello	California	1917	3,922,485	3,671,322	142,953,317
Seminole City	Oklahoma	1926	1,610,766	1,339,185	135,609,155
Humble	Texas Coast	1904	799,700	817,897	129,981,071
Earlsboro	Oklahoma	1926	880,596	775,625	129,250,686
Spindle Top	Texas Coast	1901	341,334	274,745	128,004,082
Bowlegs	Oklahoma	1926	1,522,560	1,250,490	125,500,191
100-125 Million Barrels:					
Tonkawa	Oklahoma	1921	411,018	385,075	123,259,354
Louden	Illinois	1937	11,089,068	9,462,625	121,283,314
Howard	West Texas	1926	4,820,613	4,910,253	118,766,902
Little River	Oklahoma	1927	1,437,282	1,212,895	117,789,302
Powell	East Texas	1900	474,590	450,157	117,295,100
Torrance	California	1922	3,199,266	3,249,086	117,102,024
Hobbs	New Mexico	1929	4,116,004	3,796,103	112,617,813
Hastings	Texas Coast	1934	22,166,572	20,969,315	106,663,948
Richfield	California	1919	2,550,075	2,724,300	106,403,609
Big Lake	West Texas	1923	1,573,036	1,399,975	105,365,339
Seal Beach	California	1926	2,811,176	3,424,418	102,044,990
Fitts	Oklahoma	1933	2,060,946	1,700,900	102,248,406
Hewitt	Oklahoma	1919	2,039,718	1,803,830	102,047,028
Wasson	West Texas	1936	23,919,349	22,625,154	101,362,157
Hull	Texas Coast	1918	1,634,716	1,448,031	101,014,445



Fewer Fields Yield Big Daily Volumes

Only six exceeding 50,000 barrels daily, and but 25 producing over 10,000 barrels per day

ONLY 75 United States fields were producing in excess of 10,000 barrels daily at the end of 1945, in contrast with 90 fields that were producing such volumes at the close of 1944. The pinchback of the nation's producing rate following the close of the war undoubtedly was a factor in reducing the number of fields currently producing large quantities, although some fields declined naturally. Total daily average production for the nation in December, 1944, was almost 4,700,000 barrels, whereas it averaged slightly under 4½ million barrels per day in December.

Texas was the site of 28 of these fields, followed by California with 20, Oklahoma and Kansas with 4 each, Illinois, Louisiana, New Mexico and Arkansas, 3 apiece, Wyoming 2, and Mississippi, Montana, Michigan and Colorado 1 each.

Only one field was producing more than 100,000 barrels daily, and that was the perennial leader, East Texas.

Leading U. S. Fields in Current Daily Average Production

FIELD	State or District	Year Found	PRODUCTION AT END OF 1945: Oil Wells Producing	Bbls. Daily Per Well	Bbls. Daily, Whole Field
No. 1 Field:					
East Texas	East Texas	1930	24,040	13	307,000
50,000-100,000 Barrels Daily:					
Wilmington	California	1937	1,411	69	97,384
West Edmond	Oklahoma	1928	698	117	81,500
Coalinga	California	1900	1,511	54	81,242
Slaughter	West Texas	1937	1,994	30	60,000
Conroe	Upper Tex. Coast	1931	906	56	51,026
40,000-50,000 Barrels Daily:					
Hastings	Upper Tex. Coast	1934	682	69	47,000
Wasson	West Texas	1936	1,527	31	47,000
Ventura Avenue	California	1926	483	98	47,177
Huntington Beach	California	1920	830	56	46,527
Webster	Upper Tex. Coast	1937	206	226	46,500
30,000-40,000 Barrels Daily:					
Buena Vista Hills	California	1909	976	41	39,926
Midway-Sunset	California	1900	2,757	14	38,887
Kettleman Hills	California	1928	280	137	38,314
Yates	West Texas	1926	586	60	35,100
Tom O'Connor	Lower Tex. Coast	1934	455	77	35,006
Hawkins	East Texas	1940	417	79	33,000
Oklahoma City	Oklahoma	1928	808	41	32,950
Thompson	Upper Tex. Coast	1931	343	92	31,550
Seeligson	Lower Tex. Coast	1938	468	64	30,090
25,000-30,000 Barrels Daily:					
Fullerton	West Texas	1942	334	88	29,460
Trapp	Kansas	1939	1,053	27	28,750
Keystone	West Texas	1935	483	58	28,220
Van	East Texas	1929	567	47	26,500
Long Beach	California	1921	1,133	23	26,208
McElroy	West Texas	1926	644	39	25,000
20,000-25,000 Barrels Daily:					
Louden	Illinois	1937	1,940	13	24,625
Anahuac	Upper Tex. Coast	1935	358	68	24,500
Talco	East Texas	1936	725	34	24,500
Cowden, North	West Texas	1930	662	37	24,450
Tinsley	Mississippi	1939	301	80	24,194
Goldsmith	West Texas	1935	1,013	23	23,700
Cole's Levee	California	1938	118	192	22,614
Seminole	West Texas	1937	329	61	20,000
15,000-20,000 Barrels Daily:					
Monument	New Mexico	1935	499	36	18,200
Old Ocean	Upper Tex. Coast	1934	147	122	18,000
15,000-20,000 Barrels Daily—Con'd					
Dominguez	California	1923	315	55	17,440
Mount Poso	California	1927	480	36	17,090
Salem	Illinois	1938	2,407	7	16,950
Santa Fe Springs	California	1921	548	30	16,635
Belridge (N. & S.)	California	1911	834	19	15,790
Coyote, West	California	1934	187	84	15,665
Foster	West Texas	1936	594	26	15,500
West Ranch	Upper Tex. Coast	1938	447	34	15,326
Eunice	New Mexico	1928	477	31	15,000
12,000-15,000 Barrels Daily:					
Inglewood	California	1924	306	49	14,942
Cement	Oklahoma	1917	426	35	14,750
Elk Hills	California	1919	239	60	14,408
Lance Creek	Wyoming	1918	233	61	14,100
Silica	Kansas	1931	758	18	13,850
Clay City, Cons.	Illinois	1937	1,020	13	13,750
Magnolia	Arkansas	1938	112	122	13,614
Bemis-Shutts	Kansas	1935	470	29	13,500
Howard-Glasscock	West Texas	1926	865	16	13,500
Stowell-Winnie	Upper Tex. Coast	1941	108	125	13,500
Schuler	Arkansas	1937	96	138	13,250
Cut Bank	Montana	1931	947	14	13,200
Rio Bravo	California	1937	95	139	13,176
Reed City	Michigan	1940	188	70	13,100
Ward, N.-Estes	West Texas	1934	856	15	13,000
Rangely	Colorado	1919	54	227	12,254
Kraft-Prusa	Kansas	1937	430	28	12,250
10,000-12,000 Barrels Daily:					
La Fitte	S. Louisiana	1935	60	195	11,700
Salt Creek	Wyoming	1908	1,786	7	11,625
Cumberland	Oklahoma	1940	133	85	11,250
Vacuum	New Mexico	1928	359	31	11,200
Greeley	California	1936	97	115	11,196
Kern Front	California	1925	578	19	10,840
Brea Olinda	California	1897	330	33	10,790
Edison	California	1934	162	66	10,772
Rodessa, Total	La.-Ark.-Tex.	1935	766	14	10,713
Rodessa	Arkansas	1937	54	10	540
Rodessa	N. Louisiana	1935	334	19	6,475
Rodessa	Eastern Texas	1935	378	10	3,698
Tomball	Upper Tex. Coast	1933	450	23	10,537
Smackover	Arkansas	1922	1,581	7	10,445
Paradis	S. Louisiana	1939	66	154	10,200
White Point, East	Lower Tex. Coast	1938	254	40	10,039

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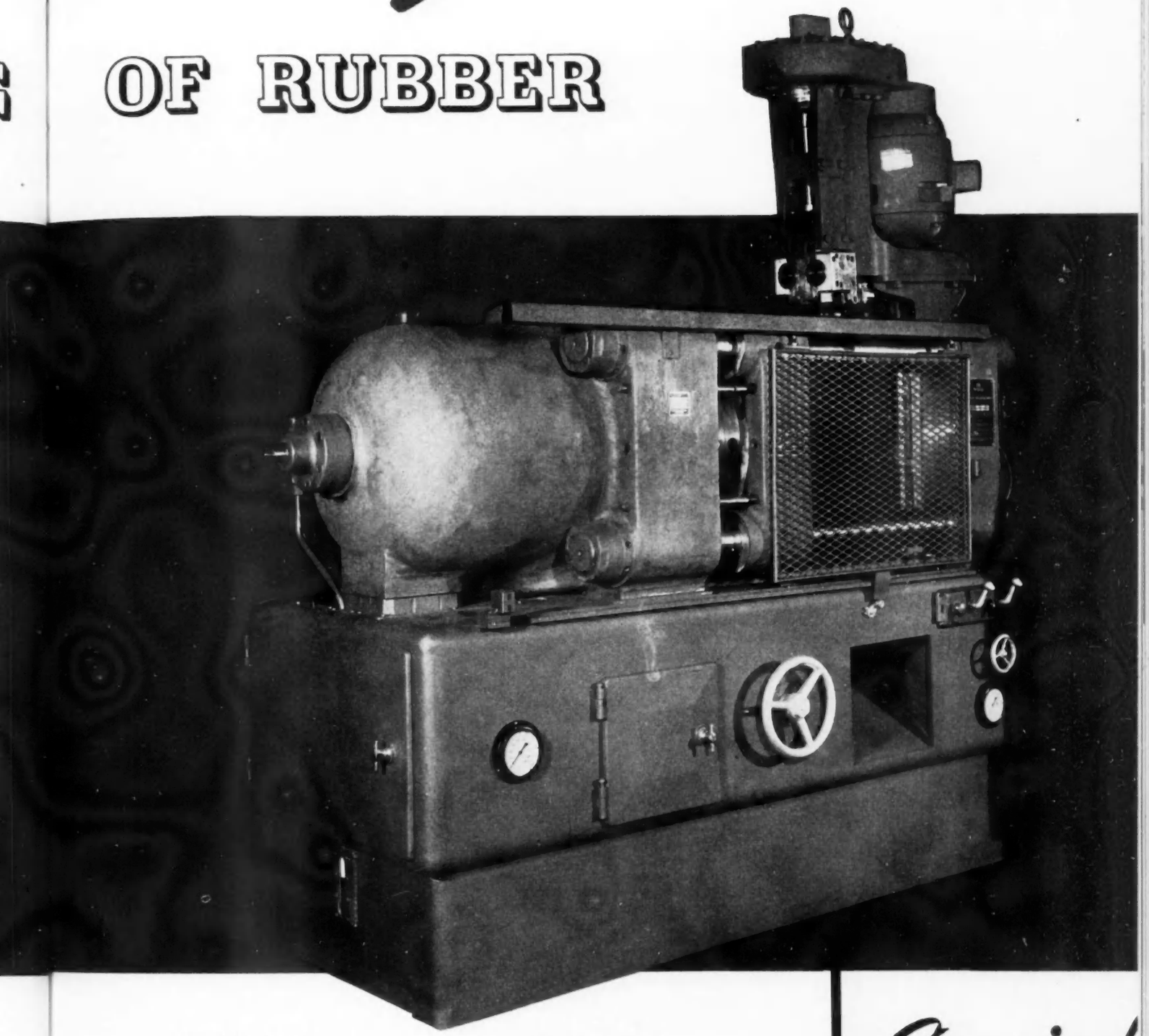

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Fast Development Pace of U. S. Fields to Continue in 1946

TEXAS continued to lead in about every phase of oil and gas activity, and can be counted upon to continue its leadership. West Texas came through in big fashion and great activity characterized operations in other sections, especially the Upper and Lower Gulf Coast. These same areas, along with East and North Texas, promise to continue their fast development pace during 1946. East Texas should nearly double the number of wells drilled, 1946 over 1945.

The year's outstanding single development was in the Rangely field, Colorado where well after well has been brought in and limits of a widely extended field have yet to be defined. Rangely enabled Colorado to rank next to Texas in exploratory success for 1945. Prospects for 1946 here, also, are outstanding. Colorado is slated to more than treble during 1946 the number of wells (53) drilled during 1945.

California had anything but an outstanding year although drilling operations were at high pitch. At the very front of the Pacific war oil effort, this area reported a few new pools, pays and extensions but none was of a caliber sufficient to be classified as the "shot in the arm" which the West Coast seems to need. California drilling is due to tumble by some 25 percent this year.

Oklahoma, according to THE OIL WEEKLY survey, is also due to see its drilling curtailed somewhat this year. Its neighbor state Kansas, which saw increased drilling but little more actual production in 1945, should hold its own or perhaps go ahead during 1946 in the number of wells drilled.

North Louisiana, after several excellent discoveries during 1945, continues to look up and 1946 should see additional rigs in operation. The immediate future is brighter here than in the southern part of the state where despite a program that calls for wildcats in nearly every parish, actual new wells for 1946 likely will remain on the 1945 level.

A review of the principal oil-producing areas follows:

West Texas

Deep explorations in the Permian Basin sector of West Texas set the pace for the state and the nation in contributing crude reserves and the opportunity to drill future wells during 1945. The district's backlog of undrilled proved locations in prolific areas increased more than 500 due to new strikes. Major discoveries and new oil zones in established fields the past year are predominately of the Mid-Continent-grade of sweet crude that will be drilled and produced above the district's normal rate.

Sweet crude production in West Texas, 76,000 barrels daily at the close of 1945, could be doubled in 1946 if pipe line facilities were available. New pipe line outlets to boost the movement of sweet crude have been projected but may not be available until the year-end.

Andrews County, largest contributor of new deep areas, saw the Bedford 1-well discovery log four commercial oil zones, then dually completed in the Devonian and Ellenburger. The new Martin area scored strikes in the Basal Clear Fork and Simpson, while the expansive Fullerton field recorded a prolific Ellenburger strike.

Ector County's TXL field, the first major producing area from the Devonian in the state with 40 producers in 1945, progressed by discovery of a parallel belt of thick-pay Ellenburger. Eleven wells were completed in this deeper zone, which is likely to embrace more productive acreage than the Devonian.

Prolific dual flows from the Devonian and Ellenburger in the Block 31 field, Crane County, a new producing-depth record (11,422 feet from Devonian) in the Jones Ranch field, Gaines County, and movement of Ellenburger production southward into the Todd area, Crockett County, were other significant developments.

North Texas

Discoveries, new oil horizons and the expansion of old fields during 1945 featured North Texas developments. While none of the strikes are likely to develop into major sources of production, considerable drilling is likely in ascertaining their productive areas. The unusually large volume of discoveries, although predominantly small in area, have a stimulating influence upon prospecting. The majority of the new fields are from the Canyon, Strawn, Bend and Mississippian in contrast to shallow strikes in former years.

The opening of the National field, Wilbarger County, with two shallower pays following, proved to be one of the outstanding strikes of the year. It will stimulate prospecting for deep production to the east along the Electra Arch in Wichita County, and a series of strikes are possible.

West Central Texas

West Central Texas operators will rely upon progressive expansion of known producing areas in carrying out an active drilling program during the year. The Reddin field, centering upon the Taylor-Jones County line, is due to continue as the most active drilling area. More than a half dozen widely scattered shallow and semi-shallow fields in Jones County will receive continuous development. Coleman and Shackelford counties afford considerable semi-proved and proved acreage that will afford normal rate of drilling. Extensions given the Bend lime area in Eastern Stephens County paves the way for a greater volume of drilling, while flush production from the Ellenburger recorded by the Skeen-Hatchett discovery may embrace a substantial area.

East Texas

Development of the Hawkins field to a density of 20 acres and spotting of a well on the remaining undrilled townsite lots will set the drilling pace in East Texas during 1946. This thick-sand Woodbine area was restricted to 40-acre spacing during the war. The New Hope and Winnsboro multi-pay fields and the Pickton and Sand Flat areas are scheduled to receive moderate, but continuous drilling.

A Paluxy oil strike, possibly of major proportions, is in store for the Mount Sylvan area, Smith County, and between Tyler and Van. The initial test logged about 50 feet of effective pay late in 1945, then deferred production test to cure titles. Humble controls the area, but sufficient acreage is held by others to force competitive development. Added significance is possibility of a series of separate oil areas along a trend outlined by geophysics and subsurface control.

The pending Mount Sylvan discovery is certain to stimulate explorations within and adjacent to the Tyler basin, while a substantial volume of deep wildcatting is in store for numerous faulted structures and interior domes that have been outlined by geophysics.

East Texas Border

Chief development in East Texas border counties in 1945 as in 1944 was concentrated in the great Carthage gas field of Panola County. Several extensions were made, sometimes from 2 to 5 miles from production. More attempts were made to obtain oil production on the northwest flank from the Petit and Travis Peak zones, which were finally rewarded in November, 1945, when a deeper pay was found in the Cotton Valley. A new oil-producing area in the Dotson region 6 miles from Carthage production may materially increase activity in 1946. Harrison County will have intensive development in the Harleton area, where very active drilling is already under way in the new Whelan gas-distillate field. Four other gas-distillate wildcats in the area were productive, and may link into a large field with further exploratory drilling. The Jeffer-

Texas continues to lead in every phase of oil and gas activity. Colorado with its promising Rangely field assumes big role in 1945. Prospects for development good in various other localities despite likely drop in the drilling rate

son field of Marion County, 15 miles from the Whelan field, had a Travis Peak oil pay discovery. Shelby and Nacogdoches counties came in for accelerated drilling.

Upper Texas Coast

New discoveries on the Upper Texas Coast were numerous during 1945 but reserves thus added were not substantial. Gas and condensate reserves were boosted by new discoveries along the Wilcox sand trend with oil reserve additions being made by extensions and new pays in proven fields.

Exploratory drilling during 1946 is due to show increased activity with major attention being focused on the Woodbine-Edwards Lime trend developed the past year on the northeastern rim of the Upper Texas Coast. This area, including Madison, Trinity, Walker, San Jacinto, Grimes, Brazos, Sabine and Newton counties, is slated for several important 1946 wildcat tests. Discovery of Edwards lime gas and condensate production by Magnolia Petroleum Company and Continental Oil Company in Trinity County probably will call for deepening of some shallow, abandoned holes and redrilling of blocks thought condemned by shallow dry holes.

On the Wilcox sand trend, discoveries were made in Colorado and Austin counties where development is expected during 1946.

On the southern part of the Upper Coast, normal operations are slated in 1946. Major strikes in 1945 included the new oil field at Blue Lake, Brazoria County, opening of several new sands in the Silsbee field, Hardin County, and the continued spread of flank operations at Fannett, Jefferson County.

Fields opened in 1942-44 but which have remained one-well pools, are due to be expanded in 1946. This is especially true of Sugar Valley in Matagorda County and Abercrombie-Magnolia's holding in San Jacinto County.

Lower Texas Coast

Increased drilling on the Lower Texas Coast, including field wells and exploratory tests, which gained momentum during 1945, is due to be continued during 1946. Continued demand for sweet crude and low-cost drilling makes operations in this area attractive.

Immediately following V-J day, Lower Texas Coast fields were faced with reduced pipe line outlets and curtailment of tank car shipments. However, new pipe line outlets are being provided including a major trunk line by Sun Oil Company from the Jim Wells-Brooks areas to tanker terminals at Corpus Christi.

The many 1945 discoveries call for development in 1946 while wildcat drilling will be widespread in Bee, Goliad, Live Oak, Brooks, Karnes and San Patricio counties. Major oil discoveries in 1945 include Humble Oil & Refining Company's new strikes on the King Ranch, Quintana's Frio sand pool in Calhoun County, Tide Water's Ricardo field in Kleberg County, and Wilcox sand production in Karnes County.

Southwest, South Central Texas

Both field development and exploratory drilling are slated to decline in Southwest Texas during 1946 following a slack year of discoveries in 1945. Major exploratory drilling is expected in Webb and Starr counties with recent strikes in Duval County due to be explored.

South Central Texas recorded nothing spectacular during 1945 and only normal development is expected for 1946. Humble is expected to center field development at its new gas and condensate strike at Jourdanton and Imogene.

North Louisiana

North Louisiana had a very active and satisfactory year in 1945. A vigorous drilling program has been forecast for 1946, with deeper drilling as an outstanding aspect. THE OIL WEEKLY forecasts 493 wells for the area, an 8 percent increase from the 456 completed in 1945, and expects that 20 percent of 1946 wells will be exploratory. Richland and Franklin parishes were the most active in 1945: the shallow Delhi field developed into one of the nation's major fields; West Delhi, Big Creek and Lamar were discovered, and it seems possible that the first 2 fields and Delhi may merge into a producing area more than 12 miles long. The gas-distillate Benton field of Boosier Parish is anticipating steady development, with oil production and 2 extensions contributing to reserves. Oil production was also found in the old Athens field, a deep gas-distillate pay in the Ajax field, a new pay in Olla. The Lake St. John field was further expanded and will continue active. Sailes, Longwood, Ashland, North Shongaloo were oil discoveries; Chatham, East Haynesville, gas; Vixen and Hico, gas-distillate. Lincoln Red River and Boosier parishes had active lease plays, with the first named due for important development in 1946.

South Louisiana

A renewed exploratory drilling program is slated for the deep producing area of South Louisiana with nearly every parish due for at least one wildcat test.

Several excellent discoveries were marked up in 1945 including Bayou Perot, Jefferson Parish; Oretta, Beauregard Parish; Bayou Carlin, St. Mary Parish, and Reserve, St. John Parish. Humble's new sand discoveries at Avery Island, Iberia Parish, also boosted reserves.

An increased number of exploratory tests are scheduled in the western parishes of Beauregard, Calcasieu and Cameron. Humble is busy in Washington Parish, on the extreme eastern side of the area.

The drilling trend continues to point toward deeper sands and although the number of wells drilled in 1946 may be less than in 1945, the footage is expected to be greater.

Arkansas

Only one discovery for Arkansas resulted from the 198 wells drilled during 1945: the shallow Wesson field in Ouachita County, discovered September 7 by McAlister Fuel Company's Charles Wesson 1, 24-15s-19w, completed in the Glen Rose. A north offset has been completed, and 2 dry holes to the south. Stephens field continued to be the most active, and also had new development from the Buckrange on the north side, adjacent to the graben fault system, and a new pay in the James lime on the southeast flank of the field, about ¾ mile off the crest of the structure. The Village field was extended ½ mile to the north; the McKamie field extended 1 mile to the west. It appears that a merger with the Patton field will result. Most wildcat activity for the year centered in Union County, and while leasing activity was notable, there was a decline in exploration and discovery, which is expected to continue into 1946. Development is expected in the McKamie-Patton area, Wesson, Village and Stephens fields, but the general total of wells for 1946 is forecast at 160, a drop of 18 percent.

Kansas and Oklahoma

Fewer wells but more oil production is the 1946 production for Oklahoma. There is a strong trend in development of old areas where significant strikes indicate there are still some good productive structures to be drilled. Outstanding are Seminole, Hughes and Okfuskee counties.

Western Oklahoma should witness several important deep tests destined to shed geological light on the potentialities of the Anadarko Basin. Meantime The Carter Oil Company has contributed valuable data along the eastern rim of the basin with its deep discoveries around Cole, Washington and Blanchard. But major companies are stepping out into the basin proper with lease concentrations reported all the way from Cimarron County in the Oklahoma Panhandle to the Nemaha Ridge on the east. Perhaps the most significant 1945 Anadarko Basin discovery was Cities Service Oil

Company's Lawson 1 in McClain County, the state's deepest producer at 10,995 feet.

In Kansas relaxation of spacing regulations in some areas has resulted in increased drilling but there was no noticeable increase in production. Old fields appear to have been drilled up but wildcatting should continue brisk particularly in western and southwestern Kansas. An important 1945 discovery was Inland Oil Company's Peterson 1, Rush County, discovery well of the Ryan pool which now has 21 producers. Also significant was Stanolind Oil and Gas Company's gas discovery, Adams 1, in Meade County which strike ties in with other developments along the Oklahoma line and is part of the general pattern in the development of the Anadarko Basin. Northwest of the Adams well, Helmerich and Payne, Inc., hit a big gasser in Clark County in the Mississippi lime, same producing formation as was encountered in the Adams. Farther extensions of the Hugoton gas field are expected.

Mississippi

Developments in Mississippi during 1945 were spotty, five new fields being discovered but none giving promise of spectacular development. However, budgets for 1946 will not be under those set up for the year just closed.

Development wells during 1946 likely will drop in number inasmuch as exploitation in the Eucutta and Heidelberg areas reached their zenith last year. The area with most activity in prospect is the East-West zone which stretches across the southern-central section of the state. Particular attention will be given Adams, Jefferson and Franklin counties, where several new fields are likely. Most prospects will head for the deeper Lower Tuscaloosa and Massive sand horizons and drilling depth average should run greater.

Shallow prospects are seen for Yazoo and Holmes counties. Geophysical crews have not completed their surveys of the coastal area.

The California Company has completed plans for a large recycling plant to take care of its Cranfield problem.

Other Southeastern States

Alabama, Florida and Georgia look forward to more intensive exploratory efforts.

Although only one new field was found in Alabama during 1945, the state should be more active this year. Development is encouraged by the comparatively low cost of prospecting. An asphalt plant due to be completed shortly to handle the low gravity oil produced in the Gilbertown area should add impetus to the search for additional producing fields. Exploration will be confined largely to the southwestern section of the state, with Choctaw, Clarke, Washington and Mobile counties getting most of the attention. Some tests may be drilled in the eastern part of the state.

Georgia's development in 1945 offered nothing to encourage prospecting. However, it is due to receive several additional tests during 1946.

Favorable geophysical findings have resulted in a rapid acceleration of activity in Florida during the past few months, and the number of tests to be drilled will increase greatly over 1945. Several major companies are taking the lead in exploratory work. Generally speaking the play is taking place in the south and west sections of state, although Hillsboro County, in the vicinity of Tampa, also is being studied. In the south the potential producing horizons are found at extreme depths, but farther north the Tuscaloosa is found as shallow as 6000 feet.

Illinois Basin

Drilling during 1946 in the Illinois basin is expected to be on the 1945-46 level.

Greatest exploratory activity in Illinois probably will be in Shelby, Coles and Clay counties with Coles and Clay probably having the greatest number of wells drilled in proven areas. Present leasing trends and a tendency of operators to look for production on a southwest trend from Mattoon to Beecher City make it appear that Shelby County will see a number of wildcat starts.

A dozen or more discoveries were chalked up during 1945 by Illinois operators, the Brownsville field in White County being the largest. The Odin field, Marion County, found the Cypress pay for good production.

A great number of leases are due for expiration in the second and third quarters and this will stimulate drilling not only in Illinois but also in Indiana and Kentucky. Posey and Gibson counties, Indiana and Union and Henderson counties, Kentucky will witness greatest drilling activity in these states.

Posey County, Indiana, reported that state's only discoveries for 1945. The Farmersville field in the same section reported a fair extension.

Michigan

Michigan failed to produce a first-rate field discovery in 1945. However, many observers there hope this may stimulate rather than retard 1946 exploratory work. Michigan's production has been slowly declining, with both oil and gas well below the state's demand. (Gas fields of the state supplied only 18 billion of the 57 billion cubic feet of gas consumed in 1945.) Shallow gas exploration, 1200 to 1700 feet, is expected to be active in 1946, although prospects are that the overall drilling program will be considerably slackened from the 1945 pace. Most of the exploratory work will be confined within a 75-mile radius of Mt. Pleasant, playing trends on which fields already have been developed. Drilling on tests intended to pick up productive highs on cross-folds to the three or four main trends through the basin can be expected to account for 30 percent of all wildcats drilled. The Dundee-Monroe dolomite section (3000 to 4000-foot average) continues to be the principal objective. Recent exploration at 5000 feet has produced gas and distillate pays in Mecosta and Clare counties and may get more attention in 1946.

Rocky Mountains

Huge acreage was proved during 1945 in the Rangely sector, that Colorado field setting a torrid pace during the last quarter for oil operators everywhere. Wyoming checked in with a half dozen or more extensions and about the same number of discoveries and the general prospects in the Rocky Mountain area for an active1946 are bright. Colorado is expected to triple its drilling activities, 1946 over 1945 while Wyoming's wells likely will jump at least 20 percent.

So far in Rangely—which, incidentally, is called the most notable addition to American reserves in 1945—there has been no dry hole to define the productive area and as 1946 started there were a score or more wells drilling, with nearly 50 already completed as flowing wells. This field got its first 1000-barrel well in November and about that time talk spread that a 600-mile pipe line would be built to connect Rangely with southern California refineries. Such an outlet would be a tremendous asset and would really put Rangely in the spotlight.

Montana's Cat Creek has become revitalized, activity being aimed at defining the limits of productive zone. During last year a new pay was discovered in this field, which was the biggest addition during 1945 to the state's reserves.

At the turn of the year many new operations were being set up in not only Colorado and Wyoming, but Montana as well. Rangely, of course, will get the bulk of Colorado's wells.

California

California had a hard pull during the past year and prospects are none too bright for 1946. Ten 1945 discoveries added a modicum of reserves, with a half dozen new pays and twice that number of extensions doing much better, although the total reserves added was considerably under what Californians, spurred by the war effort for two-thirds of the year, had hoped for. The Santiago and Cymrick-McKittrick fields, both in Kern County were the best discoveries, and the top new pays and extensions also were credited to Kern, i. e., Edison and Elk Hills, respectively. The Wilmington field in Los Angeles County came through with a sizeable new pay. Many operators were looking for 1945 to bring the state a big boost but discoveries just did not fulfill the hope. The Santiago field consists of a shallow, barely commercial pool, and a rich, deeper pool and was found by Western Gulf. Magee - Independent Exploration discovered production in the schist basement at Edison and Union Oil found Miocene production at Cymric. Activity mad it appear that at Kirby the known pool is most difficult to find.

For 1946, what with the Elk Hills spurt eliminated, total wells in California likely will drop at least 25 percent, THE OIL WEEKLY forecast calling for only 1500 wells against better than 2000 last year.

New Mexico

Deep explorations within and near regular Permian producing fields in Lea County resulted in discoveries and the opening of production trends that will materially add to the oil reserves of New Mexico and revive drilling. The outstanding strike involved prolific Ellenburger production at the 8100-foot level in the old Penrose-Skelly field. This deep zone will afford the highest average crude yield per acre, and the oil will command a premium price due to its low sulphur content. The productive area is unknown.

Discovery of the Paddock 5200-foot Glorietta lime field, and expansion of the Drinkard deep area along with additional pays in the Clear Fork series of the Permian emphasize the possibilities of deeper drilling.

Liquefied Petroleum Gas In 1945

G. G. OBERFELL, Vice President, and R. W. THOMAS, Manager,
Research and Development, Phillips Petroleum Company

THE total liquefied petroleum gas sales in 1945 excluding those for the production of automotive and aviation gasoline, and synthetic-rubber components are estimated to be 1,100,000,000 gallons, an increase of 21.4 percent over 1944, notwithstanding that for several years the liquefied-petroleum-gas industry has been operating under restrictions applied both to supply and to utilization facilities. Although practically all government restrictions on liquefied petroleum gas has been removed, the use of this material has not increased as much as would have been expected after the termination of the war, because of shortages of manpower and materials for fabricating gas-consumers' appliances, storage, utilization and transportation equipment.

Domestic Use

The largest single use of liquefied petroleum gas is for household (domestic) purposes, with sales estimated to be 540 million gallons, an increase of 23.2 percent over 1944. Although all restrictions on new domestic installations were removed for the last four months of 1945, inability to obtain necessary utilization equipment and appliances as well as manpower has kept new installations at a sub-normal figure. It is estimated that the domestic users as of December 31, 1945, were 2,050,000, representing an increase of 5.1 percent over 1944.

Because of the wartime restrictions in the form of limitation orders issued by the federal government and because of the shortage of materials due to their use in the production of war products, a large pent-up demand for liquefied petroleum gases for use in homes beyond the gas mains now exists. Relatively few new installations were made during the war period as it was necessary to obtain PAW and WPB approval for war necessary installations, and all other installations were prohibited.

There is an apparent increased tendency to use more propane and less butane. Some installations have been converted from the use of butane to propane. This trend to a greater use of propane in proportion to butane is expected to continue.

To serve more homes efficiently and to better meet competition, many distributors have built new bulk stations and have improved their service organizations. Likewise a large amount of new equipment of all types, including transport trucks, has been ordered.

Many new marketers and distributors have entered the LPG business. Some of these newcomers are just developing their organizations and consequently sold very little in 1945. It is expected that more distributors will enter this field during the year. To a great number of uninformed people, the business appears to be an opportunity to "get rich quick"; however, this is not the case. Adequate capital, merchandising experience, a fruitful territory and patience are required for financial success. It will be necessary for the industry to maintain constant vigilance at all times, and especially during this period of rapid growth, to insure the maximum safety, both from the standpoint of the consumer and the distributor.

A large amount of the increase in domestic LPG consumption during the past year was due to greater use by present consumers. As new appliances become available, it is expected that the average consumption of LPG by the domestic consumers will further increase above 1945 levels. With the increased standard of living it is reasonable to expect greater use of liquefied petroleum gases than heretofore, especially through the use of more gas burning appliances in the average home.

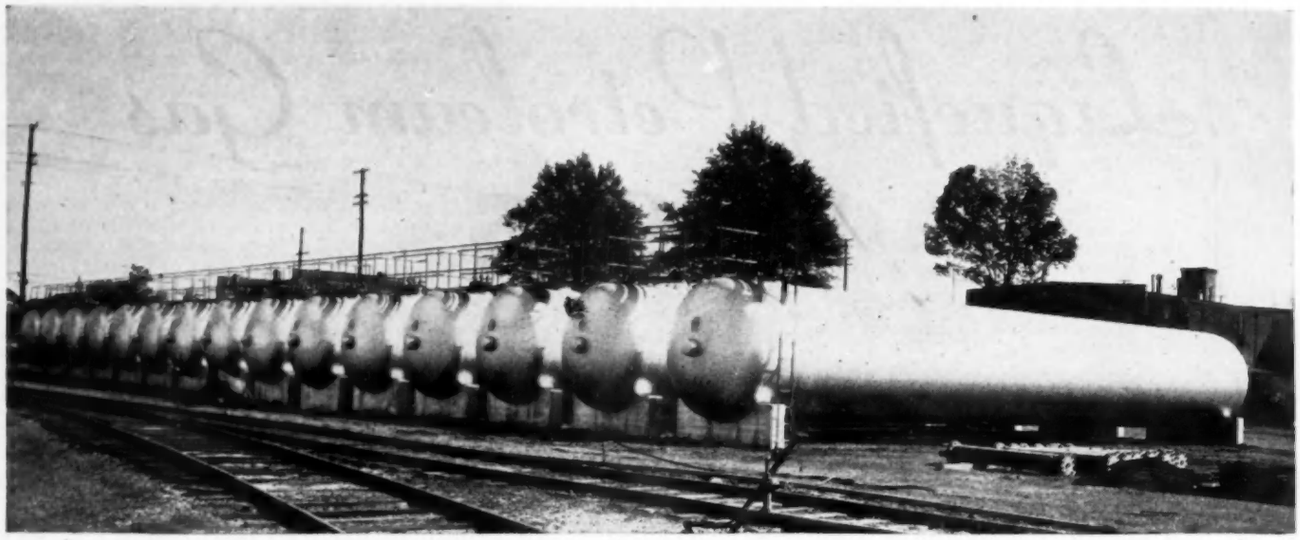
It was estimated that the quantity used in 1945 for industrial fuel, internal-

Marketed Production of Liquefied Petroleum Gas

YEAR	TOTAL SALES		DISTRIBUTION—1000 GALLONS ANNUALLY							
	Gallons	Percent Inc.	Domestic	Percent Inc.	Ind. and Miscl.	Percent Inc.	Gas Mfg.	Percent Inc.	Chem.† Mfg.	Percent Inc.
1922	223									
1923	277	24.4								
1924	376	36.0	Sale of Liquefied petroleum gas confined primarily to bottled gas business prior to 1928.							
1925	404	7.2								
1926	465	15.2								
1927	1,091	134.6								
1928	4,523	314.6	2,600	....	400	....	1,500	....	.....	....
1929	9,931	119.6	5,900	126.9	1,500	275.0	2,500	66.7	.....	....
1930	18,017	81.4	11,800	100.0	2,200	46.7	4,000	60.0	.....	....
1931	28,770	59.7	15,295	29.6	7,172	226.0	6,303	57.6	.....	....
1932	34,115	18.6	16,244	6.2	8,167	13.9	9,703	53.9	.....	....
1933	38,931	14.1	16,626	2.3	13,987	71.3	8,318	—14.3	.....	....
1934	56,427	44.9	17,681	6.3	32,448	132.0	6,298	—24.3	.....	....
1935	76,855	36.2	21,380	20.9	47,894	47.6	7,581	20.4	.....	....
1936	106,652	38.8	30,014	40.4	67,267	40.4	9,371	23.6	.....	....
1937	141,400	32.6	40,823	36.0	62,610	*	11,175	19.3	26,792	....
1938	165,201	16.8	57,832	41.7	62,694	0.0	12,386	10.8	32,299	20.5
1939	223,580	35.3	87,530	51.4	93,723	49.4	15,435	24.6	26,892	—16.7
1940	313,456	40.2	134,018	53.1	124,482	34.5	20,285	31.4	34,671	29.0
1941	462,852	47.7	220,722	64.7	172,699	38.6	25,255	24.5	44,206	27.5
1942	585,440	26.5	299,559	35.7	201,447	16.7	31,366	24.2	53,038	20.0
1943	675,233	15.3	339,380	13.3	242,978	20.6	37,519	19.6	55,356	4.4
1944	905,600	34.1	438,552	29.2	267,295	10.0	47,768	27.4	151,985	175.0
1945	1,100,000	21.4	540,000	23.2	280,000	4.8	60,000	25.6	220,000	44.8

* Not comparable due to segregation of chemical manufacturing.
† See Section V for definition of chemical uses.

REMARKS: In the above table "Total Sales" for all years except 1945, were obtained from U. S. Bureau of Mines reports. "Distribution" for the years 1931 to 1944, inclusive, was obtained from the same source. All other volumes were estimated by the writers. The total sales volume includes all liquefied petroleum gases (propane, butane, and propane-butane mixtures) when sold as such. Until 1944 the sale of pentane when sold for any purpose other than motor-fuel blending was included. It has been excluded since then. It does not include butane when blended with heavier petroleum fractions for motor-fuel purposes. Intercompany sales transactions such as purchases of liquefied petroleum gases by one company from other companies and resold as liquefied petroleum gases, have been eliminated in order to avoid duplication of sales figures. The data do not reflect sales of liquefied petroleum gases used directly by the producer at the point of production, for fuel polymerization, solvent de-waxing, etc. Neither do the figures include sales of hydrocarbons to plants manufacturing synthetic rubber or aviation or their components.



Tanks for a propane storage system for a gas utility

combustion-engine fuel and miscellaneous uses was 280 million gallons, which represents an increase of 4.8 percent over 1944. While the direct motor fuel use has increased over the 1944 consumption, the quantity of LPG used for other industrial purposes did not materially increase, because of reduced industrial plant activities during the period of reconversion.

Gas Manufacturing Use

The quantity of utility gases transmitted in gas mains has shown a consistent increase during the past several years. To meet this increased consumption has taxed the resources of many utility companies. Although utilities in general have endeavored to keep their winter house-heating peak demand at a reasonable level, in a great number of cases these peak demands have reached such proportions that the installed equipment is no longer capable of supplying the required gas. To increase their gas-producing capacity in a minimum length of time and still secure maximum flexibility at reasonable costs, a number of utilities have installed liquefied petroleum gas facilities to produce supplemental gas for these peak periods.

In addition to the liquefied petroleum gas used for peak-load shaving, a large quantity is distributed undiluted or diluted to various heating values. The sum of the LPG used for peak-load shaving and for distribution in pipe lines has been estimated for 1945 as 60 million gallons which represents an increase of 25.6 percent over that consumed in 1944.

Chemical Uses and Other Demands

The quantity of liquefied petroleum gas used in the chemical manufacturing industry depends to a great extent upon the definition of chemical uses. After excluding the C_3 and C_4 hydrocarbons used for the production of aviation and automotive gasolines and for the production of synthetic-rubber components, which are large users of propane and butanes, the quantity consumed in the production of chemicals is still a sizeable amount of the marketed liquefied petroleum gases. It was estimated that 220 million gallons of C_3 and C_4 hydrocarbons were used for such chemical manufacture during 1945. This is an increase of 44.8 percent over 1944 consumption.

Since the quality of motor fuel has returned to its prewar level and in some cases increased beyond this point, the quantity of LPG, especially butanes, going into motor fuel has increased to a level almost equal to its prewar amount. Likewise since a number of alkylation units are operating to produce motor-fuel alkylate, sizeable amounts of C_4 hydrocarbons are required in the form of isobutane and butylenes.

Although the butadiene plants using alcohol as feed have been shut down, most of the plants producing butadiene from petroleum are operating near or above their designed capacity. Therefore the demand for normal butane and butylenes for the production of butadiene has not changed with the cessation of hostilities, nor does it appear that this demand will increase materially in the immediate future. Likewise the demand for propane used in the production of ethylene for styrene, another synthetic rubber component, is not expected to decrease appreciably. Styrene is also used for the production of plastics. These uses are not included under chemical manufacturing in Table 1.

Industry-Activities in 1945

During 1945 the liquefied-petroleum-gas industry was very active in promoting greater and more uniform safety regulations. The Liquefied Petroleum Gas Association (LPGA) continued to spend considerable effort in suggesting revision of NBFU Pamphlet No. 58—"Standards of the National Board of Fire Underwriters for the Design, Installation and Construction of Containers and Pertinent Equipment for the Storage and Handling of Liquefied Petroleum Gases as Recommended by the National Fire Protection Association." This work is very important since these standards serve as the basis of the laws, rules and regulations of most regulatory bodies.

In an effort to better serve the liquefied petroleum gas industry, and especially the distributor, the LPGA is in the process of being streamlined for enlarged activities.

The committee on gases of the National Fire Protection Association has been actively studying safety relief valve area requirements for liquefied-petroleum-gas storage tanks.

With the end of the Japanese war, the industry advisory committees, the permanent LPG Sub-Committees of the Natural Gas and Natural Gasoline Committees and the Special LP-Gas Joint Survey Sub-Committee appointed by the Petroleum Administration for War were dissolved, but not, however, before the latter submitted to PAW an LPG supply-and-demand estimate for the year 1945.

Supply of Liquefied Petroleum Gas

As a result of the large requirement for C_3 and C_4 hydrocarbons during the war for the production of aviation gasoline and synthetic-rubber components, numerous facilities to produce and separate these hydrocarbons were installed throughout the United States. As a result, the industry's ability to produce and separate liquefied petroleum gases is greater now than at any other single time in our history. The quantity of C_3 and C_4 hydrocarbons included as liquefied petroleum gases, and reported in this estimate, was considerably less than 10 percent of the estimated total potentially available quantity of C_3 and C_4 hydrocarbons which could be made available at a price from gas processed by natural-gasoline plants and at refineries from crude-oil.

New Uses for LPG

One of the most interesting of the recent developments has been the use of LPG for flame cultivation (weed destruction, particularly in row crops). Because of the economic savings obtained by flame cultivation as compared to other methods of weeding, this method has aroused a great deal of interest in the agricultural industry, particularly in the South.

Of interest is the continued increase in the use of high-purity propane (free of unsaturates — propylene and butylenes) for the production of hydrogen by dehydrogenation processes. The hydrogen in many cases is then used for hydrogenation of vegetable oils and animal fats for the preparation of cooking fats, salad oils and soaps.

The use of LPG by industrial plants for many precise heating operations such as controlled atmosphere annealing with radiant tube furnaces, flame hardening and cutting, continued to expand.

ANNOUNCING...

the dissolution of the Partnership of Laurence H. Favrot, Geo. A. Peterkin, J. W. Sharman, Earl Allen and A. L. Forbes, Jr., now operating as

ASSOCIATED CONTRACTORS AND ENGINEERS

and the formation of a new partnership of A. L. Forbes, Jr., and Earl Allen to continue operating as

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Pipe Line Construction Below Wartime Rates

PIPE line construction in the United States during 1945 continued its downward trend from the wartime peak construction year established in 1943, but prospects are for the building of a larger amount of mileage in 1946.

A total of 3211 miles of new pipe lines were placed in operation during the year as compared with 4961 miles in 1944 and 7671 miles in 1943. The industry was without the benefit of major government projects during 1945. Such projects supplied the spark during the 1941-43 period when more than 7000 miles of pipe lines were placed into operation annually.

With 1961 miles of pipe lines actually under construction at the end of 1945 the year 1946 is off to a good start. With an additional 3699 miles of lines definitely known to be proposed, the forecast for 1946 pipe line construction is 5000 miles, or about twice the amount constructed during 1945 but still below the government-sponsored construction period of 1941-43.

For the second straight year, the construction of gas lines outnumbered that of oil lines and the forecast for 1946 points to a sharp increase in this trend. During 1945, there were 1470 miles of oil lines laid as compared with 1598 miles of gas lines. At the end of 1945, there were 1055 miles of gas lines under construction as compared with 824 miles of crude lines. Many of the proposed lines are long distance gas carriers.

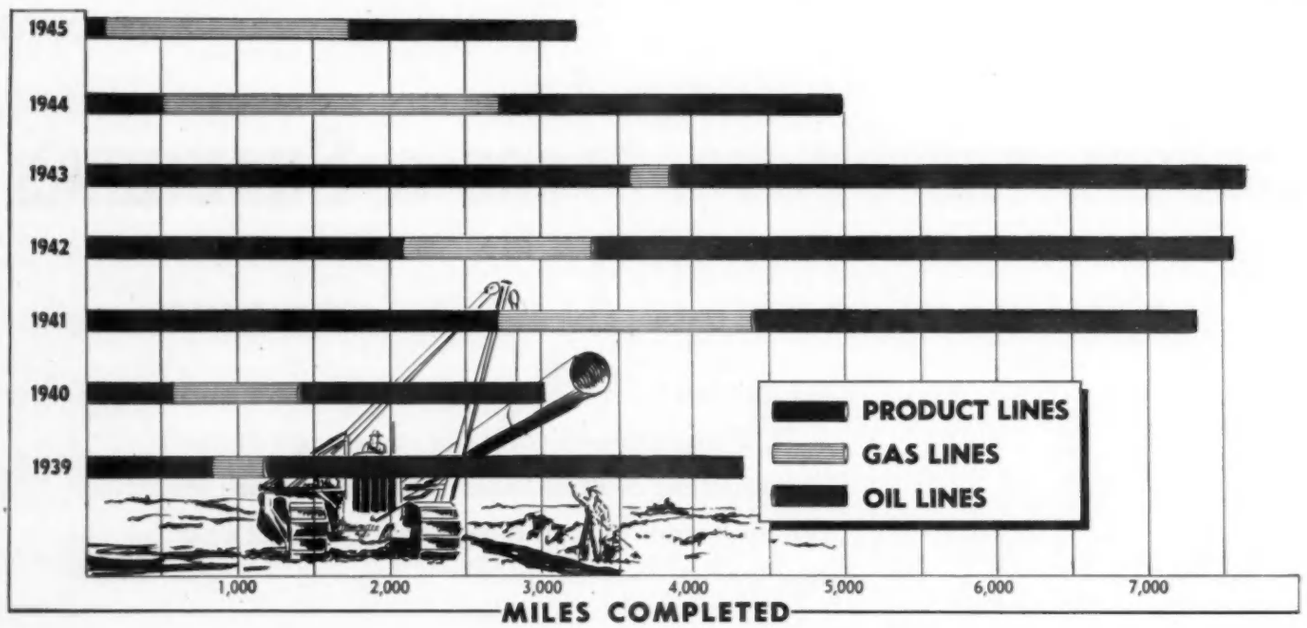
Completion of products lines during the year dropped to a new seven-year low of 143 miles. At the end of the year, there were 82 miles of products lines being built. More will be built in 1946, Humble Oil & Refining Company already having announced plans for the construction of a 275-mile products line from Baytown to the Dallas-Fort Worth area in 1946.

Several products projects from refineries on the Texas Gulf Coast to inland distribution points are contemplated during 1946 but such construction will not meet the 3614 miles laid in 1943.

The construction of crude lines has steadily declined since the peak of 4200 miles in 1942, the first year of the war when pipe lines were built to take the place of tankers being sunk regularly by enemy submarines.

The trend of oil line construction is expected to begin upward during 1946. At the end of 1945, there were 824 miles of oil lines under construction with 182 miles proposed for construction in 1946. New outlets, delayed by the war, are expected to be provided by recent discoveries, while reports indicate that

Amount of new lines placed in operation during 1945 totaled less than half of wartime peak. Prospects for building of natural gas lines brighten outlook



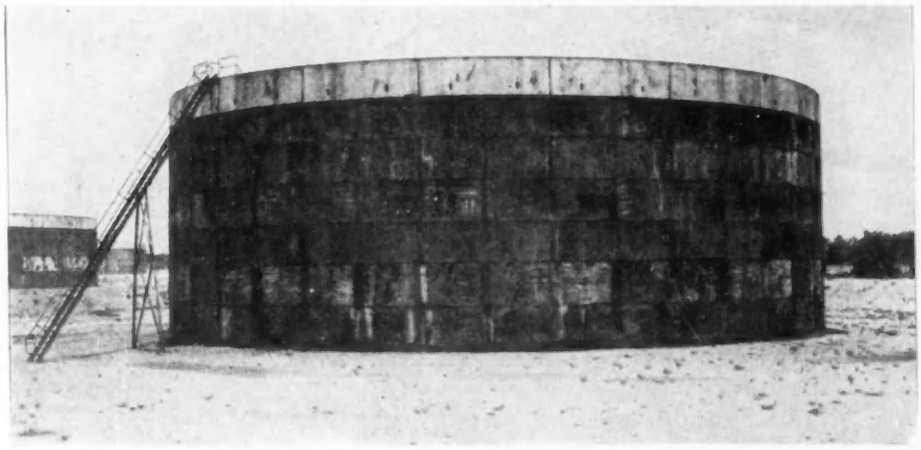
United States Pipe Line Construction

YEAR	Miles of New Pipe Line Placed in Operation[1]				Miles[2] Building Year End
	Oil	Product	Gas	Total	
1945	1470	143	1598	3211	1961
1944	2219	518	2224	4961	398
1943	3795	3614	262	7671	2371
1942	4200	2100	1250	7550	1715
1941	2900	2700	1700	7300	768
1940	1615	575	810	3000	1150
1939	3155	840	305	4300	1220

[1] These figures represent the total length of new systems actually placed in operation during the year. [2] Mileage on all types of pipe line systems on which construction was still underway at end of year.

Safe Storage

New and Used Steel Storage Tanks



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more direct trunk lines and loops to existing outlets are certain for the Permian Basin in 1946. However, long distance oil carriers do not appear probable.

At the end of 1945, Gulf Oil Corporation was nearing completion on approximately 450 miles of loops on its West Texas-Gulf Coast trunk carrier. Several other companies are expected to boost their West Texas outlets by new construction.

There is no doubt but what the construction of gas lines will hold the spotlight during 1946. On January 1, 1946, there were 1055 miles of gas lines under construction with 3242 miles already proposed for construction. The only holdback on proposed gas line construction during 1946 is authority from the Federal Power Commission. Many applications for gas construction are awaiting final FPC decision and results of the open hearings conducted by FPC during the latter part of 1945 and early 1946 will have an important bearing on future gas line construction.

Major Gas Prospects

Major gas projects up for construction during 1946:

El Paso Natural Gas Company's 720 miles of 26-inch gas line from Jal, N. M., to Blythe, Calif., where it would connect with a 214-mile, 26-inch gas line from Blythe to Santa Fe Springs, proposed by Southern California Gas Company and Southern Counties Gas Company.

Standard Oil Company of California's 167 miles of 18-inch gas line from Bakersfield to Richmond, Calif.

Metropolitan Eastern Corporation's 825 miles of 18-inch natural gas line from the Carthage field, Panola County, East Texas, to Hamilton, Ohio.

Michigan-Wisconsin also proposes to construct 1216 miles of 22 and 26-inch natural gas line from the Hugoton field, Texas and Oklahoma, to the Austin storage field in Michigan.

All of these proposals are before the FPC with no decision having been announced.

Reports say Phillips Petroleum Company plans a gas pipe line from the Guymon area, Oklahoma, to eastern industrial sections which will parallel the Rock Island railroad and will cost an estimated $60 million.

The forecast of 5000 miles of pipe line construction during 1946 is based on the assumption that a majority of the applications before FPC will be granted and that there will be a normal flow of pipe from the steel mills. Pipe line contractors say that pipe is available for first quarter construction in 1946 but any shut down by steel mills would hamper construction during the second and third quarters.

Pipe Line Construction in 1945

Alabama

H. L. Hunt of Dallas completed a 5-mile, six-inch oil line from the Gilbertown field, Choctaw County, Alabama, to the Langsdale field, Clark County, Mississippi.

Placid Oil Company, Dallas, proposes a 12-mile eight-inch crude line from the Gilbertown field, Choctaw County, to a tank farm and barge loading terminal on the Tombigbee River.

Arkansas

Lion Oil Refining Company completed a 12-mile, six-inch oil line from the Midway field, Lafayette County, to a connection with the Interstate Pipe Line Company's trunk line near the Buckner field. Contractor: Anderson Brothers.

California

Southern California Gas Company, Southern Counties Gas Company and **Pacific Lighting Corporation** completed 110 miles of gas line from the Goleta gas field in Santa Barbara County to Los Angeles.

Southern California Gas Company and the **Southern Counties Gas Company** propose 214 miles of 26-inch gas line from Blythe to Santa Fe Springs.

Standard Oil Company of California proposes 167 miles of 18-inch natural gas line for the Pacific Power & Light Company which will run from Bakersfield to Richmond.

Standard Oil Company of California is constructing 175 miles of 18-inch oil line with a daily capacity of 90,000 barrels between Kettleman Hills and the Los Medanos tank farm near Pittsburg.

Colorado

Utah Oil Refining Company completed 151 miles of ten-inch crude line from the Rangely field to Boggs, Wyo., thence north along the right-of-way of the company's six-inch line where connection was made with Utah's eight-inch line running east and west across southern Wyoming.

Illinois

The Ohio Oil Company completed 105 miles of eight-inch products line from Robinson to Indianapolis.

Interstate Oil Pipe Line Company completed 19 miles of eight-inch oil line from the Mattoon field, Coles County, to connect with The Ohio Oil Company's line and pump station near Montrose.

Western United Gas & Electric Company completed 30½ miles of gas lines ranging in size from three to 16-inch in the Aurora area. Contractor: Midwestern Engineers.

Natural Gas Pipe Line Company of America completed two miles of 3½-inch gas line in the Chicago area. Contractor: Midwestern Engineers.

Public Service Company of Northern Illinois completed 3 miles of 4, 6, 8 and 12-inch gas mains in the Chicago area. Contractor: Midwestern Engineers.

Chicago District Pipe Line Company proposes to build 23 miles of 24-inch natural gas line paralleling two sections of its Crawford line in Will, Cook and DuPage counties.

Indiana

Panhandle Eastern Pipe Line Company laid 32 miles of 24-inch natural gas loop from a point northeast of Zionsville, to Maumee, O. Contractor: Midwestern Engineers.

Panhandle Eastern Pipe Line Company completed 4 miles of 3½-inch gas pipe line in Hancock County. Contractor: Midwestern Engineers.

Northern Indiana Public Service Company completed eight miles of 6, 10 and 12-inch gas mains near Gary. Contractor: Midwestern Engineers.

Kansas

Cities Service Gas Company completed 44 miles of 16-inch gas transmission line from Shidler to Caney. Contractor: Sharman & Allen.

Kansas-Nebraska Natural Gas Company completed a program involving construction of 172 miles of 8, 12 and 18-inch natural gas lines from the Hugoton field as outlets to Scott City, Wakeeney, Stockton and Glade.

Kansas Power & Light Company laid 25 miles of natural gas lines varying in size from four to 16-inch from Barber County to existing lines in Pratt County. Contractor: M. E. White Construction Company and company equipment.

County Bay Oil Company completed seven miles of three-inch oil gathering lines in the Jenday pool, McPherson County.

Northern Natural Gas Company laid 19 miles of 16 and 24-inch natural gas lines in the Hugoton field. Contractor: Anderson Brothers.

Northern Natural Gas Company constructed a 16-mile loop of 24-inch line with a major river crossing near Ellsworth, Kansas. Contractor: Anderson Brothers.

Great Lakes Pipe Line Company completed 25 miles of eight-inch gas line from Paola to Kansas City. Contractor: Midwestern Engineers.

Socony Pipe Line Company proposes to build 30 miles of six-inch oil line from the Bemis Shutts field, Ellis County, to the Morel field in Graham County.

Kentucky

Kentucky Natural Gas Corporation proposes to build 18 miles of 10¾-inch natural gas line from Russellville to near Mitchellville, Tenn.

Louisiana

The Texas Company completed three miles of three-inch propane line between the company's Bateman Lake cycling plant and The Texas Pipe Line Company's pump station at Berwick. Contractor: Sharman & Allen.

Gulf Refining Company completed 6½ miles of four-inch oil line from the Bully Camp field, Lafourche Parish, to the company's barge terminal on the intercoastal canal at Larose. Contractor: Sharman & Allen.

Haynesville Operators Committee completed 110 miles of line ranging from two to 20-inch, in the Haynesville field, Claiborne and Webster parishes. The installation consisted of gathering system and tie-ins for collecting all gas in the field. Contractor: Sharman & Allen.

Memphis Natural Gas Company completed 100 miles of 18 and 20-inch gas loops from the Monroe field, Louisiana, to Memphis. Contractor: N. A. Saigh Company.

Interstate Pipe Line Company completed 120 miles of 8, 10 and 12-inch crude oil pipe line from the Mallalieu field in Mississippi to the North Baton Rouge refinery. Contractor: Sharman & Allen.

Sun Pipe Line Company gave the Delhi field, Richland Parish, an outlet by laying 17.9 miles of six-inch crude oil line from the field to a barge loading terminal at Talla Bena on the west bank of the Mississippi River. Contractor: J. R. Horrigan Construction Company.

Humble Oil & Refining Company is constructing 65 miles of 14-inch natural gas line from the Pecan Island field, Vermilion Parish, to Opelousas. Contractor: Associated Contractors & Engineers.

Arkansas Louisiana Gas Company laid 7½ miles of 20-inch natural gas line, including various water crossings, near Shreveport. Contractor: Anderson Brothers.

Interstate Natural Gas Company completed 14 miles of 4, 6 and 12-inch natural gas line near Sterlington, North Louisiana. Contractor: Associated Contractors & Engineers.

Interstate Natural Gas Company is constructing 103 miles of 8, 12 and 16-inch natural gas line from Tepetate to Baton Rouge, South Louisiana. Contractor: Associated Contractors & Engineers.

Texas Pipe Line Company replaced five miles of eight-inch oil line near the Houma pump station on the company's South Louisiana system from the Paradis field to Port Arthur. Contractor: Associated Contractors and Engineers.

Massachusetts

Colonial Beacon Oil Company laid 35 miles of four and six-inch products line from Everett to Dracutt. The line has a capacity of 18,000 barrels daily between Everett and Waltham, and 7000 barrels daily between Waltham and Dracut.

J. R. HORRIGAN
CONSTRUCTION CO.

Pipe Line Contractors

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Pipe Line Construction in 1945

Michigan

Sohio Petroleum Company completed ten miles of four-inch line from the Wheatland area, Mecosta County, to Pure Transportation Company's terminal in the Sherman field. Constructed by the Company.

Leonard Pipe Line Company laid 15 miles of six-inch oil line from the Deep River and Adams fields in Arenac County to the company's Buckeye station. Contractor: Gentry Engineering Company.

Sohio Petroleum Company completed 42 miles of six-inch gas line from the Coldwater field, Isabella County, to Dow Chemical Company's plant at Midland.

Mississippi

Interstate Pipe Line Company laid 36 miles of six and ten-inch crude line to extend its North Baton Rouge-Mallalieu field trunk line to the Gwinville oil and condensate area in Jefferson Davis County.

Humble Oil & Refining Company laid three miles of four-inch oil line from its Hub field to a tank car terminal near Keene.

Memphis Natural Gas Company completed 50 miles of 18-inch natural gas line from Robinsonville to a point 30 miles north of Tunica. Contractor: N. A. Saigh Company.

Missouri

Texas-Empire Pipe Line Company completed 164 miles of 12-inch oil line between Shelton and Heyworth, Ill. The new line will increase to 110,000 barrels daily capacity the amount of oil moved in the area and will complete a double 12-inch line operated by Texas-Empire which moves crude from Oklahoma, Kansas and Texas.

Montana

A. B. Cobb & Company completed 90 miles of five-inch oil line from the Cut Bank field to a loading rack at Conrad.

New Mexico

Valley Refining Company laid 31 miles of four-inch oil line from the Cap Rock field, centering upon the Lea-Chaves County line, to the Dexter station on its Square Lake-Roswell carrier.

El Paso Natural Gas Company constructed 31½ miles of 16-inch relay natural gas line from its Eunice district compressor station, Lea County, southeast to its Jal natural gasoline plant and booster station.

Artesia Pipe Line Company laid five miles of two and three-inch crude line from the Red Lake field, Eddy County, to Midway Station on the New Mexico Pipe Line Company's trunk line.

Southern Union Gas Company installed an eight-mile, eight-inch loop, paralleling a five-inch system that delivers Lea County gas to its Artesia distribution system.

Southern Union Gas Company laid five miles of six-inch natural gas loop, parallel to a four-inch carrier leading into Carlsbad. Contractor: J. D. Walton.

Texas-New Mexico Pipe Line Company installed a mile of eight-inch oil line from its Jal Station to the Dollar Hide field, Andrews County, Texas.

Humble Pipe Line Company completed a combination crude oil line, involving three miles of four-inch and 2½ miles of two-inch welded pipe from the Dublin-Ellenburger pool, Lea County, to its Hobbs-Wink trunk line.

El Paso Natural Gas Company proposes to build a 720-mile 26-inch natural gas transmission line from Jal, Southeastern New Mexico, thence west and parallel to its existing system that serves El Paso and outlying points, to Blythe, Cal., where connection would be made with California distributing companies. Initial feeder lines will aggregate 117 miles of 24-inch; 32 miles of 18-inch and 15 miles of 14-inch lines in reaching supplemental gas supplies in the Texas Panhandle and the Keystone, TXL, Fullerton and Seminole fields, West Texas.

Oklahoma

Cities Service Gas Company completed 35 miles of 16-inch gas transmission line between Blackwell and Shidler. This section ties into the 16-inch line laid by the same company between Shidler and Caney, Kansas. Contractor: Oil States Construction Company.

Bell Oil & Gas Company has completed 35 miles of oil line and gathering system from the Aylesworth and Mead areas in Marshall County, to the Ben Franklin refinery at Ardmore. Contractor: Basin Construction Company.

Skelly Oil Company completed 47 miles of natural gas lines ranging from four to 22 inches as a gathering system in the Guymon area of the Hugoton gas field. Contractor: J. E. Carlson & Son.

Cities Service Gas Company laid nine miles of 12 and 16-inch natural gas line in the Nowata area, including a crossing of the Verdigris River at Lenapah. Contractor: Midwestern Eingineers.

Sohio Petroleum Company completed 12 miles of four and six-inch oil line from the Arcadia pool, Oklahoma County, to a point between Oklahoma City and Drumright.

Phillips Petroleum Company completed 78 miles of oil lines ranging in size from two to 24-inch in the West Edmond field to connect with lines in the old Edmond and Oklahoma City pools. Contractor: Harry Liles, Oklahoma City.

Standish Pipe Line Company completed 15 miles of eight-inch oil line from the West Edmond pool to Oklahoma City. Contractors: Western States Construction Company, and Harry Liles.

Shell Pipe Line Corporation reworked two 52-mile, six-inch crude lines from Tonkawa to Cushing. Contractor: O. R. Smith Construction Company.

Great Lakes Pipe Line Company is constructing 800 miles of eight-inch natural gas line from Barnsdall to Sioux Falls, S. D. The line will go from Barnsdall to Kansas City, thence to Omaha, Neb., Sioux City, Ia., and on to Sioux Falls. Contractors: O. E. Dempsey Construction Company, Oklahoma Contracting Company, Midwestern Engineers, Williams Brothers, and C. W. Sternberg.

Empire Pipe Line Company completed five miles of four-inch oil line from the Coates-Cimarron eight-inch line to the Evansville field, near Guthrie.

Mid-Continent Pipe Line Company completed eight miles of six-inch oil line as a loop in its discharge line from its Harris Station in the Moore area of Cleveland County, to Oklahoma City. Contractor: Holland Construction Company, Tulsa.

Standish Pipe Line Company completed seven miles of six-inch oil line from Bethany Station, Oklahoma County, to loop into the jointly-owned Standish and Sohio Western's West Edmond-Oklahoma City line. Contractor: Western States Construction Company.

Michigan-Wisconsin Pipe Line Company proposes to build 1216 miles of 22 and 26-inch natural gas line from the Hugoton field to the Austin Storage field, Michigan.

Ohio

Ohio Fuel Gas Company completed 18½ miles of six-inch natural gas line from Urbana to Bellefontaine.

Pennsylvania

United Natural Gas Company is constructing approximately 6½ miles of eight-inch natural gas lines from its Heath Station, Jefferson County, existing six-inch lines near Spring Creek and Millstone. Contractor: Anderson Brothers.

Socony-Vacuum Oil Company proposes to construct about 100 miles of oil line ranging in size from four to 14 inches in the Middletown, Malone and Westchester areas.

East Texas

Lone Star Gas Company completed a 21½ mile gathering system in the Buffalo field, Leon County. The line consists of ½ mile of 2-inch, 3 miles of 4-inch, 2 miles of 6-inch, and 16 miles of 8-inch and a crossing of the Trinity River. Contractor: Anderson Brothers.

Gulf Refining Company placed into operation an eight-mile four-inch oil line from the Pickton field, Hopkins County, to Gulf's Mid-Continent-Port Arthur system near Winnsboro. Contractor: Sharman & Allen.

Empire Pipe Line Company added 4½ miles of four-inch line to its gathering system in the Longview sector of the East Texas field.

United Gas Company installed 45 miles of six to twenty-inch natural gas gathering lines in the Carthage field, Panola County.

Tom G. Shaw completed 5½ miles of two-inch oil line from the Lone Star pool, Cherokee County, to the Pleasant Grove area where connection was made with the Texas Pipe Line Company's East Texas trunk line system.

United Gas Pipe Line Company completed 143 miles of 24-inch natural gas line from the Carthage gas field to Monroe, La.

Merrimac Oil Company constructed three miles of three-inch oil line from the Larue field, Henderson County, to the Ash Switch loading rack.

Humble Pipe Line Company completed six miles of six-inch oil line extending from the Sand Flat field, Smith County, to connect with Humble's Hawkins-Longview 10-inch carrier. Contractor: Wood Engineering and Construction Company.

Arkansas-Louisiana Gas Company laid 18½ miles of 4, 6 and 8-inch pipe as part of a gathering system in the Carthage field, Panola County. Contractor: Anderson Brothers.

Arkansas-Louisiana Gas Company completed 18 miles of eight-inch natural gas line from the Whelan field, Harrison County, to Daingerfield. Contractor: Anderson Brothers.

Lone Star Gas Company is constructing 80 miles of 14-inch natural gas trunk line from the Carthage field, Panola County, to Opelika field, Henderson County, where connection will be made with its Central and North Texas system. Contractor: Tom R. Jones, Dallas.

Metropolitan Eastern Corporation proposes to build 825 miles of 18-inch natural gas line from the Carthage field, Panola County, to Hamilton, Ohio.

Texas Gulf Coast

United Carbon Company completed 19 miles of eight-inch gas line from the LaRoca field, near Woodsboro, to United's carbon plant near Aransas Pass. Contractor: C. W. Sternberg.

Humble Oil & Refining Company completed 81 miles of four-inch gas line from the cycling plant at Katy to the Dow Chemical Company plant at Freeport. Contractor: Sharman & Allen.

Danciger Oil & Refineries, Inc. completed a 15-mile, six-inch natural gas line, consisting of a lateral from Newgulf, Texas, to Jefferson Lake Sulphur Company's Long Point plant.

The Texas-New Mexico Pipe Line Company completed five loops totaling 30.2 miles in its Houston-Crane 12-inch oil line. Contractor: Midwestern Engineers.

Sinclair Refining Company completed three miles of three-inch lateral off its Corpus Christi-Houston trunk line to the El Campo pool, Wharton County. Contractor: O. C. Whitaker Company.

Empire Pipe Line Company completed eight miles of six-inch line as extension from its Sour Lake station to Grayburg station, near Beaumont, on Magnolia Pipe Line Company's system.

American Petroleum Company installed 15 miles of six-inch oil line from the Silsbee field to the Arriola field in Hardin County. Contractor: Associated Contractors and Engineers.

Glenn H. McCarthy laid 28 miles of ten-inch gas line from the Winnie-Stowell field to Beaumont to connect with McCarthy's West Beaumont-Port Arthur system. Contractor: J. R. Horrigan Construction Company.

Glenn H. McCarthy installed 55 miles of gathering lines in the Winnie, Stowell, Fannett and Fig Ridge fields on the Texas Gulf Coast.

Standard Oil Company of Texas is constructing 11 miles of six-inch oil line from the Mainland to the Smith Point field in Galveston Bay. About 9½ miles of the line is under water.

American Petroleum Company installed six miles of four-inch oil gathering lines in the Silsbee field, Hardin County. Contractor: Sharman & Allen.

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HOUSTON, TEXAS

Pipe Line Construction in 1945

Humble Oil & Refining Company completed 16 miles of five and seven-inch oil line from the Dickinson field, Galveston County, to the Hall's Bayou field, Brazoria County. Contractor: Associated Contractors & Engineers.

Glenn H. McCarthy laid 43 miles of ten and 12-inch natural gas line from the Winnie field, Chambers County, to the DuPont plant at Orange. Contractor: J. R. Horrigan Construction Company.

The Texas Pipe Line Company laid 20 miles of four and six-inch pipe to provide outlets for the Blue Lake field, Brazoria County, and the Lane City field, Wharton County.

Empire Pipe Line Company is constructing 65 miles of 12-inch oil line from Sour Lake to the Cities Service Refinery Corporation's plant at Lake Charles, La.

Warren Petroleum Corporation is constructing 82 miles of eight-inch products line from the Lake Creek field, Harris County, to the Houston Ship Channel. Contractor: Associated Contractors and Engineers.

Humble Oil & Refining Company proposes to build 275 miles of six-inch products lines from its Baytown refinery to a point between Fort Worth and Dallas.

Pan American Pipe Line Cmpany and **Pan American Gas Company** completed four miles of four-inch gas and distillate lines in the Chocolate Bayou field, Brazoria County.

West Texas

Shell Pipe Line Corporation built nine miles of six-inch oil line from its Wheeler field station, Winkler County, to the TXL field, Ector County. Contractor: McVean and Roberts.

Shell Pipe Line Corporation built 27 miles of eight-inch oil line from the TXL field, Ector County, parallel to six-inch, via Wheeler and Monahans fields to connect with its Wink-McCamey multi-unit system. Contractor: Anderson Brothers.

Shell Pipe Line Corporation built 9.7 miles of six-inch oil line from a point on its Wink-McCamey multi-unit system in South Central Crane County to Crane staton of The Texas New Mexico Pipe Line Company. This involves movement of sweet crude. Contractor: O. R. Smith Construction Company.

Shell Pipe Line Corporation has under construction a 23-mile, eight-inch crude oil line from its Wheeler field station, Winkler County, to the Bedford one-well multi-pay field, Andrews County. Contractor: Anderson Brothers.

Helmerich & Payne, Inc., Cardinal division, completed 11 miles of six-inch natural gas line from the MacDer field, Pecos County, to the West Texas Utilities Company's electric power plant near Girvin, Texas. Contractor: McVean and Roberts.

Bryce C. McCandless built five miles of three-inch natural gas line from his Owego pool discovery, Pecos County, to connect with Helmerich & Payne, Inc., Cardinal division's carrier.

Magnolia Pipe Line Company installed eight miles of eight-inch loop, parallel to four and six-inch lines on the discharge end of its Fullerton-Union field-Andrews station, Andrews County, boosting capacity to 35,000 barrels daily.

Ralph Lowe, Midland producer, completed five miles of four-inch crude line, with five miles of four-inch gathering system, in connecting the Welch field, Dawson County, to The Texas-New Mexico Pipe Line Company's Slaughter-Midland trunk line. Contractor: Morrison Construction Company.

Texas Gulf Producing Company installed three miles of four-inch oil line from its Dean field northwest extension to connect with the Magnolia Pipe Line Company's system in the Dean field, Cochran County.

Empire Southern Gas Company completed 41 miles of 8¾-inch welded natural gas line from the Shafter Lake field, Andrews County, thence east to Martin County, where connection was made with its 30-mile, eight-inch line to Big Spring. The new unit enables the company to supplement Panhandle gas purchased from the West Texas Gas Company. Shafter Lake field gathering system required ten miles of 2-inch line. Contractor: H. C. Price Company.

The Texas New Mexico Pipe Line Company built two miles of four-inch crude line from the Block 31 field, Crane County, to its Wink-Crane system. This temporary unit will be replaced by six miles of six-inch, or larger, line to extend from field direct to Crane station to permit segregation of the sweet crude.

The Texas New Mexico Pipe Line Company completed in mid-March the installation of seven loops, aggregating 30 miles of 12-inch on its Crane-Houston 12-inch carrier, boosting the capacity to 65,000 to 70,000 barrels daily, depending upon grades of oil handled. Contractor: Midwestern Engineers.

The Texas New Mexico Pipe Line Company proposes to materially increase the capacity of its New Mexico-West Texas to Houston trunk line system during 1946, with special consideration to be given the segregation of sweet crude.

Stanolind Pipe Line Company laid eight miles of four-inch crude oil line from its Henderson field, Winkler County, station to connect with the Eaves field, centering upon the Texas-New Mexico border.

Cabot Carbon Company completed 13 miles of 20-inch natural gas lines from the Halley field, Winkler County, to its natural gasoline and carbon black plants between the Kermit and Keystone fields.

Gulf Refining Company laid 62 miles of eight-inch sweet crude line from the Keystone field, Winkler County, to its Midland terminal. Contractor: Sharman & Allen.

Humble Pipe Line Company stepped up the capacity of its outlet in the Sand Hills field, Crane County, from 8500 to 11,000 barrels daily by installing 3.3 miles of four-inch loop.

Humble Pipe Line Company completed four miles of four-inch oil line extending from its Fuhrman-Mascho field system, Andrews County, to serve the Martin two-pay field.

Gulf Refining Company is constructing 450 miles of loops to facilitate the movement of sweet crude from the Keystone and other West Texas fields to its refinery at Port Arthur. The loops include 8, 10 and 12-inch pipe. The project, costing $8 million, will increase the company's Permian Basin outlet to 115,000 barrels daily. Contractors: J. R. Horrigan Construction Company, Oklahoma Construction Company, and Associated Contractors and Engineers.

Texas-New Mexico Pipe Line Company is constructing 34 miles of six-inch oil line from its Abell field station to the Fort Stockton field, Pecos County. Contractor: Fredell Construction Company.

The Atlantic Pipe Line Company built one mile of eight-inch lateral from its Wink-Midland ten-inch carrier to connect with Shell Pipe Line Corporation's Wheeler field, Winkler County, tankage and run 1500 barrels daily of Ellenburger sweet crude purchased on contract.

Columbia Carbon Company completed 14 miles of 20-inch natural gas line from Phillips Petroleum Company's natural gasoline plant in the Seminole field, Gaines County, to its carbon black plant near Seagraves.

Scurlock Oil Company completed two miles of three-inch, parallel to the old two-inch crude line from the Garza (Post) field, Garza County, to tank car rack at Post, making deliveries to Canadian refineries.

Southwest Texas

Sun Pipe Line Company completed 15 miles of eight-inch gathering line from Premont to Sullivan City, Starr County. Contractor: Allied Welding and Engineering Company.

Houston Natural Gas Corporation completed 38 miles of eight and 12¾-inch natural gas line from the Alice field, Jim Wells County, to Corpus Christi, at a cost of $750,000. Contractor: J. W. France Company, Inc.

Houston Natural Gas Corporation installed six miles of six-inch natural gas pipe from the Driscoll field to Kingsville. Contractor: Sheppard Construction Company.

Sinclair Refining Company laid five miles of eight-inch oil line across Nueces Bay, from Taft to Sinclair's pump station at Corpus Christi. Contractor: Whitaker Contracting Company.

South Texas Pipe Line Company completed 17 miles of six-inch oil line from Donna to LaBlanc.

Sun Pipe Line Company is constructing 84 miles of ten-inch oil line from the Seeligson area to Aransas Pass. Contractor: J. R. Horrigan Construction Company.

Humble Pipe Line Company laid 20 miles of six-inch oil line from the Imogene field to the new Charlotte field. Contractor: C. W. Sternberg.

Tennessee Gas & Transmission Company proposes to build 95 miles of 16-inch natural gas line from the San Salvador field, Hidalgo County, to its main transmission line in Nueces County.

Pan American Pipe Line Company completed five miles of oil gathering lines in the Willamar field, Willacy County.

North Texas

Sinclair Refining Company completed 3½-miles of two-inch line from Cherryholmes field, Jack County, to its Hensley station.

Sinclair Refining Company completed 14 miles of six-inch oil line as an outlet for the Sivells Bend field, Cooke County, and 3½ miles of two to six-inch gathering lines. Contractor: O. C. Whitaker Company.

Stanolind Pipe Line Company completed four miles of three and four-inch oil line as a gathering system in the Hildreth field, Montague County, and extension from its Heard pump station near the Stoneburg pool.

Humble Pipe Line Company installed four miles of four-inch oil line to give the Ross field, King County, an outlet.

Stanolind Pipe Line Company provided an outlet for the Risch and Joplin pools, Jack County, by laying nine miles of four-inch oil line to its Jacksboro Junction station on its Gulf Coast-Chicago trunk line. Company connected to the Borden pool, Jack County, with a 3000-foot four-inch lateral from its trunk line.

Bell-Western Corporation built five miles 4½-inch crude line extension from its Fargo field station to the Odell field, Wilbarger County.

West Central Texas

Onyx Refining Company extended its Jones-Taylor County system in building six miles of six-inch to point near Merkel on Magnolia Pipe Line Company's Midland-Corsicana sweet crude line for delivery of 5000 barrels of oil daily on contract.

Texas Panhandle

Phillips Petroleum Company built ten miles of ten-inch natural gas line from the Cities Service Oil Company's gas holdings in Sherman County to the Cactus Ordnance Plant in Northern Moore County.

Utah

Utah Oil Refining Company laid 24 miles of eight-inch crude oil line from Uinta Junction near Ogden, Utah, south to Salt Lake City. Contractor: Anderson Brothers.

Wyoming

Sinclair Refining Company laid 36.8-miles of eight-inch crude oil line from its new discovery at Sand Draw, Wyoming, to its pump station at Crooks Gap, Wyoming. Contractor: O. C. Whitaker Company.

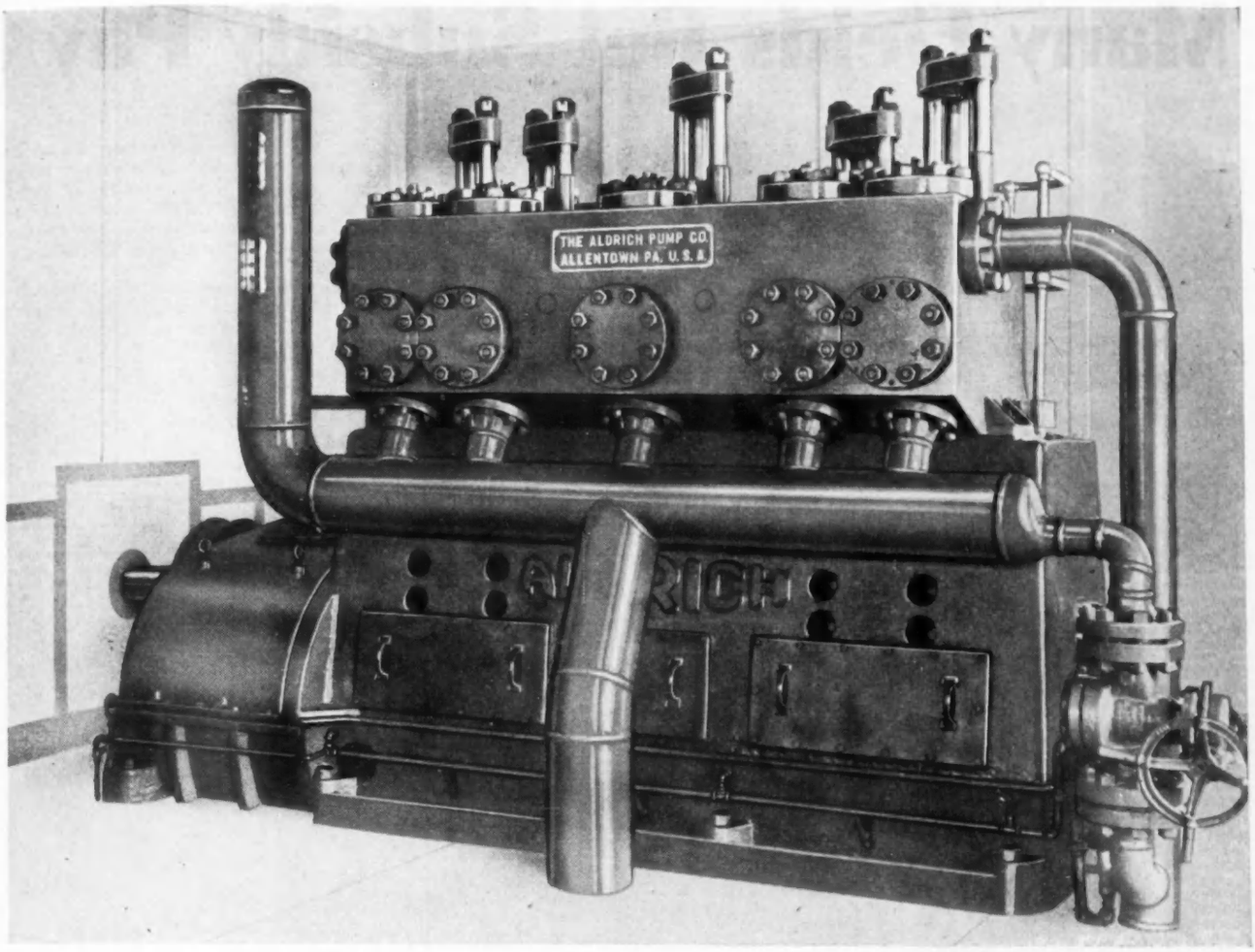
Sinclair Wyoming Oil Company completed 23 miles of 8-inch oil line from its Lost Soldier pump station to the new Crooks Gap pool in Fremont County, Wyoming.

Stanolind Pipe Line Company completed 32 miles of 12-inch cut-off line between Casper and Welch in the Elk Basin area.

Continental Oil Company completed 10 miles of three and four-inch oil line from the Lance Creek field, Niobrara County, to a truck loading rack between Lusk and Newcastle.

Toronto Pipe Line Company proposes to build 40 miles of 6-inch crude oil line from the Steamboat Butte field, Fremont County, to the railroad at Shoshone.

Stanolind Pipe Line Company completed 68 miles of 8-inch oil line from the Circle Ridge field to the Elk Basin-Casper line.



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Design features of a much publicized pipe line recently completed from Elk Basin to Casper, Wyoming, are indicative of modern trends in pipe line pumping practice. The throughput is handled by two Aldrich Quintuplex Pumps. Operating at a crankshaft speed of 175 rpm, they are nearly three times as fast as conventional pumps for pipe line service. Although this high operating speed is new to pipe lines, they have been thoroughly proved by years of industrial use under severe operating conditions.

Numerous advantages result from these operating speeds. A smaller size pump will handle a given delivery requirement, consequently both first cost and required floor space are less. Discharge rates in high speed units show less variation from the mean which ensures less pulsation, less noise and less wear. Simple, low-ratio gear-reducers or direct-coupling to prime movers are practical with high operating speeds, and efficiencies are improved.

It takes unusual skill, design experience and manufacturing standards to build pumps that will stand up year after year. Extra weight must be eliminated without sacrifice in strength. Balance, both static and dynamic, must be near perfect. Tolerances must be small and finishes flawless. Lubrication must be adequate and unfailing under trying conditions. Valves and passages must be designed to minimize pressure losses in the fluid end. All of these requirements are met in Aldrich designs.

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Many Fields Get Subsidy Pay

Approximately 303,000 wells, representing about 74 percent of the total number of producing wells in the United States, were receiving stripper well or high cost subsidy payments from the government at the close of 1945.

It is estimated that some 48,500 leases are included in the growing list of fields receiving the subsidy. The subsidy payments are costing the government an average of $4½ million a month, according to the Reconstruction Finance Corporation. Although involving a very large percentage of the number of producing wells, only about 12½ million barrels of the nation's monthly crude production of approximately 140 million barrels are covered.

During 1945, approximately 200 fields were added to the subsidy list. These are listed in the accompanying tabulation.

Fields Added to Government Subsidy List During 1945

Field, *County*	Subsidy per Bbl. (Cents)	Effective Date
ARKANSAS—		
McDonald, New, *Ouachita*	20	April 1
Urbana (Travis Peak), *Union*	15	July 1
Nick Springs (Travis Peak), *Union*	24	Aug. 1
Garland City, *Miller*	35	Feb. 1
Troy (Nacatoch & Tokio), *Nevada*	35	Feb. 1
CALIFORNIA—		
Olinda (Upper B), *Orange*	35	July 1
Torrance "34", *Los Angeles*	20	Sept. 1
Mountain View, *Kern*	02	Nov. 1
COLORADO		
Ft. Collins, *Larimer*	24	Nov. 1
Wellington, *Larimer*	05	Dec. 1
ILLINOIS—		
New Haven, *White*	20	April 1
Patton, *Wabash*	35	April 1
Maunie, South, *White*	20	Aug. 1
Boos, North, *Jasper*	20	Sept. 1
Clay City, West, (McCloaky), *Clay*	20	Sept. 1
Maple Grove, East, *Edwards*	35	Sept. 1
Bend, *White*	35	Oct. 1
Dix, South, *Jefferson*	35	Oct. 1
McKinley, *Washington*	25	Oct. 1
New Haven, North, *White*	25	Oct. 1
Schnell, *Richland*	35	Oct. 1
Cooks Mills, *Coles*	35	Feb. 1
Concord, East, *White*	35	Feb. 1
Brown, *Marion*	20	Feb. 1
Patton, *Wabash*	25	Mar. 1
INDIANA—		
Half Moon, *Posey*	25	June 1
Oakland College, *Posey*	25	July 1
Oaktown, *Knox*	35	July 1
KANSAS—		
Deerhead-Viola, *Barber*	35	Mar. 1
Valley Center, *Sedgwick*	35	Mar. 1
Ackerland, *Leavenworth*	35	April 1
Ferguson, East, *Elk (West Half)*	35	April 1
Hillsboro, *Marion*	02	April 1
Beisel, *Russell*	07	May 1
Grunder, *Stafford*	09	May 1
McLouth, East, *Leavenworth*	25	May 1
McLouth, North, *Jefferson*	35	May 1
Dopita, *Rooks*	06	June 1
Gideon, *Russell*	25	June 1
McLouth Lime, *Jefferson*	35	June 1
Ploog, *Rice*	35	June 1
Roxbury, S. E., *McPherson*	04	June 1
Shallow Water, *Scott*	02	June 1
Starr, *Elk (West Half)*	35	June 1
Beaumont, *Greenwood*	25	July 1
Toulon, *Ellis*	07	July 1
Welch, *Rice*	12	July 1
Graber, *McPherson*	25	Aug. 1
Russell, North, *Russell*	35	Aug. 1
Wherry, *Rice*	25	Aug. 1
Beaumont, North, *Greenwood*	35	Sept. 1
Boxberger, *Russell*	35	Sept. 1
Jobes, *Greenwood*	35	Sept. 1
Kraus, *Ellis*	35	Sept. 1
Rahn, Southwest, *Cowley*	35	Oct. 1
Catherine, *Ellis*	25	Nov. 1
Burton, N. E., *Harvey*	06	Dec. 1
Colyer, *Elk (West Half)*	35	Feb. 1
Haller, *Ellis*	35	Feb. 1
Laton, *Brooks*	20	Feb. 1
Dexter, *Cowley*	25	Mar. 1
Faubin, *Rooks*	25	Mar. 1
Hammer, *Barton*	20	Mar. 1
KENTUCKY—		
Reed, *Henderson*	20	Mar. 1
Wathen, *Union*	20	April 1

Field, *County*	Subsidy per Bbl. (Cents)	Effective Date
LOUISIANA—		
Bayou Choctaw, *West Baton Rouge and Iberville*	26	April 1
English Bayou, *Calcasieu*	25	May 1
Gillis, *Calcasieu*	35	May 1
Timbalier Bay, *LaFourche*	35	May 1
Lake Barre, *Terrebonne*	35	Sept. 1
Lake Mongoulois, *St. Martin*	24	Nov. 1
Jennings (Evangeline 3750'), *Acadia*	25	Feb. 1
MICHIGAN—		
Bangor, *Van Buren*	20	April 1
Bangor, North, *Van Buren*	20	July 1
Beaverton, West, *Gladwin*	20	July 1
Hamilton, North, *Clare*	25	July 1
Temple, *Clare*	02	Aug. 1
MISSISSIPPI—		
Carey, *Sharkey*	33	Mar. 1
NEBRASKA—		
Falls City, *Richardson*	18	Feb. 1
NEW MEXICO—		
Empire, *Eddy*	35	June 1
Getty, *Eddy*	18	June 1
Shuggart, North, *Eddy*	20	June 1
Benson, *Eddy*	05	July 1
Halfway, *Lea*	35	July 1
Maljamar, North, *Lea*	35	July 1
Benson, *Eddy*	09	Aug. 1
Barber, *Eddy*	27	Sept. 1
P. C. A., *Eddy*	35	Sept. 1
Salt Lake, *Lea*	26	Sept. 1
Cooper-Jal, *Lea*	06	Dec. 1
East Lusk, *Lea*	35	Mar. 1
Loco Hills, *Eddy*	35	Mar. 1
OKLAHOMA—		
Burbank, *Kay and Osage*	25	April 1
Jewitt, West, (Old), *Carter*	25	April 1
Homestake, *Seminole*	25	April 1
Perryman, *Tulsa*	35	April 1
Spring (Sand), *Jefferson*	20	April 1
Bebee, (Huton Lime), *Pontotoc*	35	May 1
Davenport, South, *Lincoln*	35	May 1
Jesse (Thurman), *Pontotoc*	25	May 1
Newby, *Creek*	35	May 1
Twin Mounds, *Payne*	25	May 1
Wewoka Townsite (Hunton Lime), *Seminole*	20	May 1
Sasakwa (Calvin Sand), *Seminole*	35	May 1
Doyle (1200'), *Stephens*	35	June 1
Hotulka-W. Earlsboro, *Pottawatomie*	20	June 1
Pearsonia, *Osage*	11	June 1
Skiatook West, *Osage*	35	June 1
Woffard, *Seminole*	35	June 1
Burbank, *Kay and Osage*	35	July 1
Flesher East, *Osage*	25	July 1
Rea, *Okmulgee*	35	July 1
Searight, *Seminole*	05	July 1
Thomas, *Kay*	01	July 1
Dora, *Seminole*	35	Aug. 1
Loco, *Stephens*	25	Aug. 1
Macomb, South, *Pottawatomie*	35	Aug. 1
Palacine, *Stephens*	20	Aug. 1
Wellston, North, *Lincoln*	35	Aug. 1
Doyle (Payne), *Stephens*	35	Oct. 1
Fream, *Hughes*	35	Oct. 1
Ft. Still, *Comanche*	25	Oct. 1
Grayson, *Seminole*	08	Oct. 1
Landon, *Osage*	35	Oct. 1
Atlantic, *Osage*	20	Nov. 1
Barber, *Osage*	35	Nov. 1
Empire, *Stephens*	35	Nov. 1
Kendrick, *Lincoln*	17	Nov. 1
Lovell, *Lovan*	25	Nov. 1
March, North, *Payne*	20	Nov. 1
Norfolk, West, *Payne*	25	Nov. 1
Seminole, East, *Seminole*	25	Nov. 1

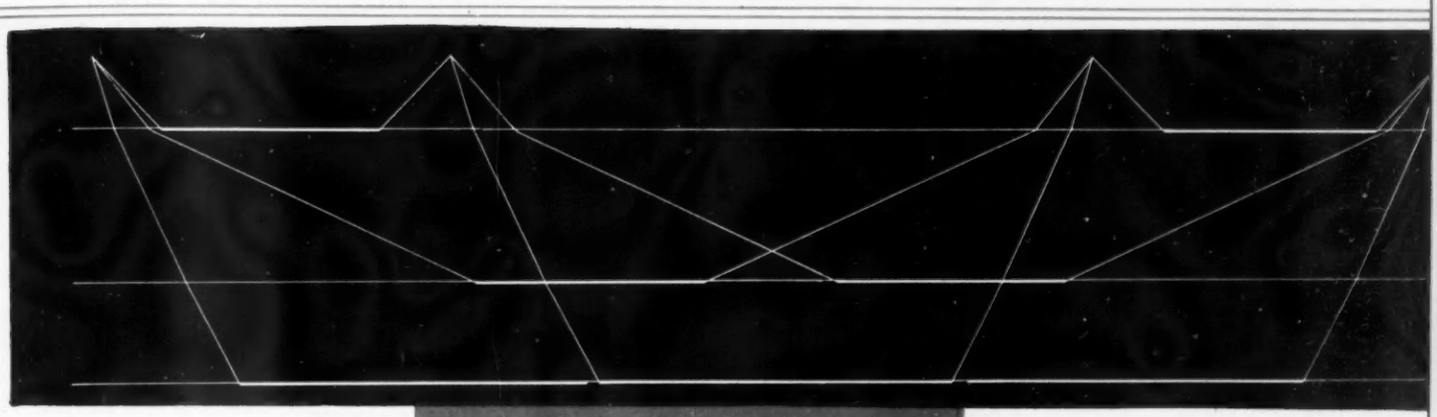
Field, *County*	Subsidy per Bbl. (Cents)	Effective Date
OKLAHOMA—Continued		
Signal Hill, *Osage*	20	Nov. 1
St. Louis District, *Pottawatomie*	20	Nov. 1
St. Louis, North, *Pottawatomie*	35	Nov. 1
Tuskegee, East, *Creek*	20	Nov. 1
Arno, West, *Creek*	20	Dec. 1
Lyons Quinn, *Okfuskee and Okmulgee*	35	Dec. 1
Slick, *Creek*	25	Dec. 1
Wilcox, *Creek and Okmulgee*	25	Dec. 1
Airport, *Tulsa*	35	Feb. 1
Beland, *Muskogee*	35	Feb. 1
Dill, *Okfuskee*	20	Feb. 1
Hensley, *Okfuskee*	35	Feb. 1
Jolly Patton, *Muskogee*	35	Feb. 1
Kidd, *Seminole*	35	Feb. 1
Loco, *Stephens*	20	Feb. 1
McLish, *Carter*	35	Feb. 1
Muskogee, North, *Muskogee*	35	Feb. 1
Naval Reserve, *Osage*	20	Feb. 1
Oklahoma City (Arbuckle Lime), *Oklahoma*	35	Feb. 1
Robinson, *Muskogee*	35	Feb. 1
Seminole, Northeast, *Seminole*	20	Feb. 1
Twin Creek, *Osage*	35	Feb. 1
Wagoner, *Wagoner*	35	Feb. 1
Wagoner, South, *Wagoner*	35	Feb. 1
Watkins, *Osage*	20	Feb. 1
Haydenville (Dutcher), *Okfuskee*	25	Mar. 1
Jesse (Gilcrease), *Pontotoc*	25	Mar. 1
Naval Reserve, *South Osage*	20	Mar. 1
TEXAS—		
Johnson, *Foard*	30	Feb. 1
Gayle, *Coleman*	20	Feb. 1
Goodrich, *Polk*	35	Feb. 1
White and Baker, *Pecos*	03	Feb. 1
Harper, *Ector*	20	Mar. 1
K-M-A, North (Strawn), *Wichita*	20	April 1
Morita, *Howard*	35	April 1
Oakville, *Live Oak*	18	April 1
World, *Crockett*	15	April 1
Moore, *Howard*	35	May 1
Parker, *Andrews*	24	May 1
Sayles, *Jones*	20	May 1
Welch, *Dawson*	24	May 1
Akard, *Jones*	20	June 1
Edwards, *Crane*	25	June 1
Fuhrman-Mascho, *Andrews*	04	June 1
Clara South, *Crockett*	35	July 1
Peters, East, *Duval*	25	July 1
Wortham, *Freestone*	15	July 1
Hull-Silk-Sikes-Caddo, *Archer*	25	Aug. 1
Iatan, North, *Howard*	15	Aug. 1
Loving, *Stephens*	25	Aug. 1
Olson, *Crockett*	17	Aug. 1
Smyer, *Hockley*	20	Aug. 1
Vincent (4000-5000'), *Howard*	25	Aug. 1
Sand Flat (Paluxy), *Smith*	35	Sept. 1
Grayson, *Reagan*	24	Oct. 1
Hendrick, *Winkler*	25	Nov. 1
Iatan, East Howard, *Howard*	02	Nov. 1
Lubbock, *Lubbock*	35	Nov. 1
Remo (Osborne area), *Wheeler*	25	Nov. 1
Teci (Osborne area), *Wheeler*	25	Nov. 1
Government Wells, South, *Duval*	20	Dec. 1
Howard-Glasscock, *Howard and Glasscock*	04	Dec. 1
Rose (Caddo), *Clay*	20	Dec. 1
Sand Flat (Odessa), *Smith*	20	Dec. 1
Wheat, *Loving*	20	Dec. 1
WYOMING—		
Spindletop (Sundance), *Natrona*	25	April 1
Dallas and Derby, *Fremont*	35	June 1
Garland (Madison), *Big Horn*	35	June 1
Half-Moon, *Park*	35	Aug. 1
Maverick Springs, *Fremont*	28	Aug. 1
Pitchford, *Park*	34	Aug. 1
Shoshone, *Park*	35	Aug. 1

Outstanding Improvements

. . . . IN SEISMOGRAPH RECORDING

As a result of advanced instrumentation, seismograph amplifiers are now equipped with an automatic volume control that has a linear frequency response over a 30,000 to 1 taper. In case after case, our field crews, employing these automatic controls, have been able to obtain clearly defined, uniformly recorded oscillographs to as deep as 25,000 feet.

. . . . IN MULTIPLE REFRACTION METHODS

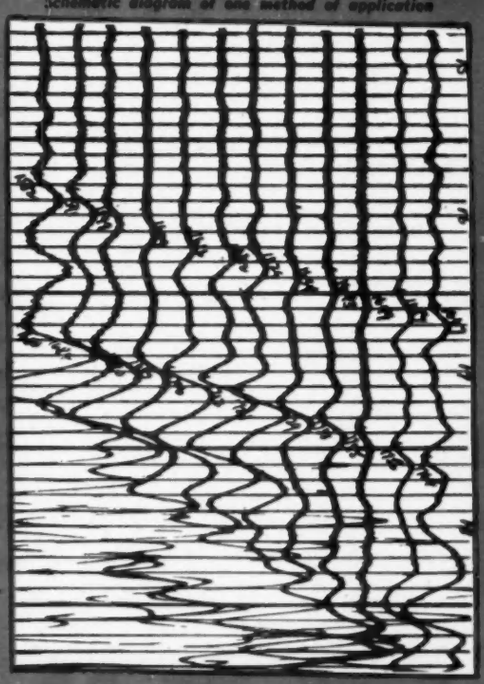


In 1932, areas of West Texas and New Mexico were explored by this method. It was used in the 1937 exploration of the Edwards Plateau area for structures in the Ordovician Formation. Further modified and improved, it was again employed in the exploration of certain areas of Southern Florida during 1944. In this latest application in Southern Florida, refracted events have traced geological horizons with acceptable accuracy over distances as great as 25 miles.

With this method of multiple refraction it is possible to record on one oscillogram several refracted events with one charge of dynamite. It makes possible the determining of velocities, depths and dips of certain intermediate geological horizons that cannot be determined by the usual refraction or reflection method. By this method the refracted wave is registered on the oscillogram so that its independent character is readily discernible and the interpreter can identify each event as being a certain geological horizon. With this data cross section profiles are constructed which give depths to two limestones having different velocities and another geological horizon with a very much higher velocity.

Multiple refraction can be decidedly more economical than the usual reflection method of finding geological structures.

Schematic diagram of one method of application



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HOUSTON, TEXAS

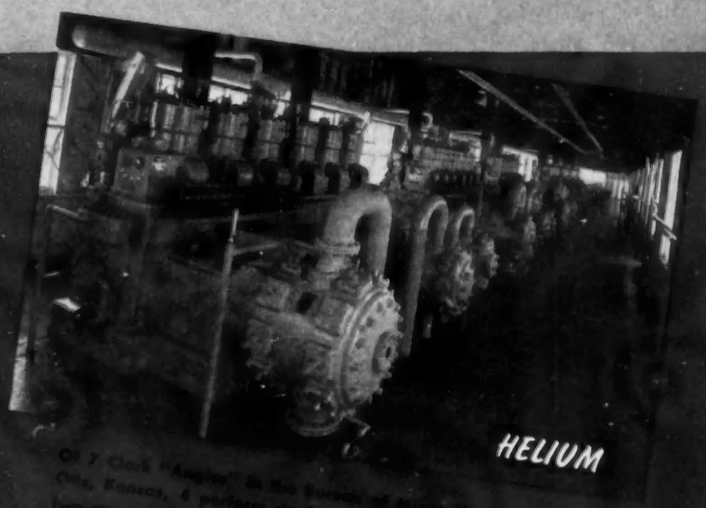
Salient Data on Productive Exploratory Wells Completed in U. S. in 1945

(Footnotes to clarify headings and abbreviations appear at end of data, page 238.)

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		ALABAMA—New Oil Field							
Choctaw	E. Gilbertown	Carter Oil Co.'s Sam Alman 1, sw ne sw 5-10n-3w	9- 5-45	3461	3337-3461	Eutaw sd; U. Cre	P 20; 17 wtr	17.5	4
		ALABAMA—New Gas Field							
Winston		Glen Rose's Boshell 1, c nw ne 18-12s-8w	5- 7-45	2004	1760-1765 1860-1870	Bougar li Tuscumbia	F 0.8 mln	....	1
		ARKANSAS—New Oil Field							
Ouachita	Wesson	McAlester Fuel's C. Wesson 1, c ne ne sw 24-15s-19w	9- 7-45	2954	2646-2676	Glen Rose sd; Trin	F 96; 1/8"	33	4
		ARKANSAS—New Oil Pay							
Union	Strong	Brown and Wheeler's Clark 1, c sw sw 22-18s-12w	10-29-45	6350	4817-4822	Cotton Valley sd; Jur	P 60	....	..
		CALIFORNIA—New Oil Fields							
Kern	McDonald	Williams Bros' Layman 1, 12-28s-19e	7-23-45	853	807- 850	Temblor sd; L Mio	P 150	21	2
Kern	Santiago	Western Gulf's Woodward-USL 2, 21-11n-23w	8- 1-45	2678	2460-2670	Leutholtz sd; Mio	F 1200; 1/2"	24.00	6
Los Angeles	Del Valle	Texas Co.'s Kern 1, 18-4n-17w, 1/2 mi w Sterry pool	4- -45	3114	2817-3000	Miocene	F 196; 1/4"	29.3	3
Los Angeles	Sansinena	Union Oil's Sansiena 15, 30-2s-10w	6-13-45	3595	3346-3591	Middle Puente; U Mio	P 125	22.9	3
		CALIFORNIA—New Oil Pays							
Kern	Cymric	Independent Explor. Co.'s Oceanic 1, 22-29s-21e	8-25-45	4700	4649-4699	Equiv of Belridge 64 zone sd; L Mio	F 960; 5% w; 1/4"	37.5	3
Kern	Cymric	Union Oil's 45-26, 26-29s-21e, 4 mi n McKittrick fld	7-13-45	3610	3580-3605	Carneros sd; Mid Mio	F 1440; 24% wtr; 1/2"	33	8
Kern	Edison	H. H. Magee's Dogherty 3, 14-30s-29e	7-16-45	2624	2570-2624	fractured schist	F 1000; 1/4"	19.2	27
Los Angeles	Newhall-Potrero	Barnsdall's RSF 44, 27-4n-17w	4- 4-45	11229	9664-9842	.....	F 530; 11/64"	36.7	1
		CALIFORNIA—Oil Field Extensions							
Fresno	Lanare	General Pet. Corp.'s Witten 75-23, 23-17s-18e	8-11-45	8248	6830-6872	Temnlor sd; Mio	F 211; 1/4"	34.4	3
Kern	Edison	Richfield's Cauley 2, 43-16; 16-30s-29e, 1/4 mi ne ext	5-15-45	4625	4577-4622	Nozu sd; Mid Mio	P 183; 4% w	19.5	3
Kern	Race Track Hill	Kern Oil Co.'s 28-34, 34-29s-29e, 1/2 mi ext	4-28-45	5421	4590-4692	Jewett sd; Mio	F 1872; 2"	41.0	2
Los Angeles	Seal Beach	Shell's Bryant 3-I, 34-4s-12w, 1/2 mi nw est	7-23-45	10194	8600-10120	U. Puente; Mio	F 262; 3/8"	31.6	2
		CALIFORNIA—New Gas Field							
Solano	Rio Vista, N	Standard's Calpak 2, 6-4n-3e, 4 mi n Rio Vista gas fld	3- -45	4840	4760-4810	Midland sd; Eoc	F 14 mln	....	3
		CALIFORNIA—Gas Field Extension							
Madera	Gill Ranch	Shell's Edison-Securities 25-20, 20-13s-16e, 1/2 mi sw ext	7- 5-45	4517	4434-4480	sd; Eoc	F 3 mln; 11/64"	....	1
Tulare	Trico	Trico O & G Co.'s Atwell Island Community 1, 7-24s-23e, 2 mi nw ext	.....	4206	3175-3180 3233-3238	.....	F 18 mln	....	1
		COLORADO—Oil Field Extension							
Rio Blanco	Rangely	Stanolind's Hagood 1, c ne se 23-2n-103w	3-25-45	6555	5955-	Weber sd	F 420; 1"	34.3	..
Jackson	McCallum, N	Conco's Webster 1, c nw nw 18-9n-78w, 1 mi se ext	1- 2-45	5413	5356-5412	Lakota sd; L Cre	F 181	....	..
Moffat	Powder Wash	Mt. Fuel's Allen 3, se se nw 33-12n-97w, 1/2 mi e ext	7-26-45	5481	4525-4536	Wasatch sd; Ter	F 3.6 mln	....	..
Rio Blanco	Rangely	Calif. Co.'s Gray 2-B, sw se 18-2n-103w, 1 3/4 mi ne ext	6- 1-45	6494	6475-6494	Weber sd; Penn	F 345; 1/4"	....	..
Rio Blanco	Rangely	Stanolind's Rector 1, ne se 34-2n-102w, 3 1/2 mi se ext	6- 7-45	6242	5830-6109	Weber sd; Penn	F 365	....	..
		ILLINOIS—New Oil Fields							
Clay	Ingraham, W	Kingwood's Fulk 1, sw se sw 13-5n-7e	8-21-45	2577	2532-2574	Cypress sd; Miss	P 52; 24 wtr	....	2
Clay	Iola, W	Texas Co.'s Wyette Jones 1, se se nw 18-5n-5e	1-16-45	2505	2494-2505	McClosky li; Miss	P 12; 8 wtr	....	..
Clay	Passport	Magnolia's Stanley 1, sw sw ne 12-4n-8e	3-13-45	3005	3003-3005	Rosiclare li; L Miss	F 326	....	4
Clay	Stanford	Pure and Lynn's Goings 1, ne ne sw 24-3n-7e	10- 2-45	3036	3028-3036	McClosky li; Miss	F 888	....	9
Clinton	Bartelso, W	Mosebach's J. Meyers 1, sw nw sw 18-1n-3w	10-30-45	976	933- 953	Cypress sd; Miss	P 6; 2 wtr	....	1
Clinton	Huey	Goldschmidt-Schiermann's Jentzen 1, sw ne ne 32-2n-2w	8-14-45	1266	1250-1264	Benoist sd; Miss	P 26; 2 wtr	....	3
Clinton	Shattuc	Murphy and Conrey's L. Noller 1, ne ne ne 28-2n-1w	6-12-45	1286	1279-1286	Cypress sd; Miss	P 25	....	2
Edwards	Maple Grove, S	Aetna Oil-Hayes' C. Greathouse 1, sw ne nw 23-1n-10e	3-20-45	3320	3244-3255	L. O'Hara li; L Miss	P 80	....	1
Edwards	Samsville, N	Cent. Pipe Line's Chas. Obold 1, ne se nw 30-1n-14w	10- 2-45	2890	2882-2890	Benoist sd; Miss	P 91; 25 wtr	....	2
Gallatin	Shawneetown	Ferrall's C. I. Oldham 1, ne ne nw 24-9s-9e	9-11-45	2837	2648-2662	Aux Vases sd; Miss	P 19; 6 wtr	....	1
Hamilton	Aden, S	Rudy's Marlow 1, nw nw se 29-3s-7e	7-24-45	3430	3384-3430	McClosky li; Miss	P 25; 9 wtr	....	1
Hamilton	Rural Hill, W	Tide Water's W. B. Johnson 1, se se nw 33-6s-5e	6-19-45	3483	3229-3247	Aux Vases sd; Miss	P 33; 30 wtr	....	1
Hamilton	Springerton	Carter's Prov. Mutal Ins. 1-A, nw nw se 14-4s-7e	9- 4-45	3327	3293-3309	Aux Vases sd; Miss	P 137	....	3
Jasper	Hunt City	W. W. Shaffer's M. Stifel 1, sw nw sw 2-7n-10e	9-25-45	2715	2542-2552	Rosiclare sd; Miss	P 25; 10 wtr	....	1
Jasper	Newton, N	Shulman Bros.' Ben Bunton 1, w nw ne 31-7n-10e	11-27-45	2863	2856-2861	McClosky li; Miss	P 37; 30 wtr	....	1
Jasper	Willow Hill, N	Robinson & Puckett's Roberts 1, ne ne se 26-7n-10e	5-15-45	2660	2599-2660	McClosky li; Miss	P 180	....	2
Jefferson	Dix, S	L. & W. Drilling Co.'s Sargent 1, sw sw nw 22-1s-2e	5-27-41	1938	1928-1938	Bethel sd; Miss	P 63	....	1
Jefferson	Markham C., W	Gulf's F. W. Purcell 1, nw sw se 4-3s-4e	11-13-45	3165	2913-2955	Aux Vases sd; Miss	P 27; 120 w	....	1
Marion	Odin	Buell and Doran's M. J. Young 1, se ne se 12-2n-1e	5-29-45	1760	1750-1759	Cypress sd; Miss	P 120	....	21
Richland	Gallagher	Pure's J. C. Howard A-1, nw nw sw 13-2n-9e	10-16-45	3243	3167-3243	McClosky li; Miss	P 96; 81 wtr	....	1
Richland	Parkersburg, N	Central Pipe Line's Lee Bunn 1, ne sw sw 28-3n-14w	10-30-45	3132	3087-3093	McClosky sd; Miss	P 48; 30 wtr	....	1
Richland	Seminary	J. W. Carter's D. C. Borah 1, nw ne nw 20-2n-10e	6-26-45	3202	3199-3202	McClosky li; Miss	P 224	....	2
Wyane	Goldengate, N	Bell & Duncan's T. A. Leach 1, n nw se 9-2s-9e	11- 6-45	3407	3303-3312 3329-3334	L. O'Hara li; Miss Rosiclare li; Miss	P 122	....	2
Wyane	Keenville	Gulf's Anderson 1, nw nw ne 26-1s-5e	2-13-45	3158	2998-3010	Aux Vases sd; Miss	P 11; 240 wtr	....	1
White	Bend	Bell Bros.'s E. H. Morris 1, nw sw nw 21-5s-14w	2- 4-41	2373	2348-2373	Tar Springs sd; Miss	P 116	....	1
White	Brownsville	H. H. Weinert's Kisner 1, sw ne se 31-5s-9e	3-13-45	3186	3118-3134 3139-3145	Rosiclare li; L Miss McClosky li; L Miss	P 187	....	31
White	Concord, E	Magnolia's H. Pierce 1, ne nw sw 35-6s-10e	6-16-42	3028	2890-3010	L. O'Hara li; L Miss	P 90	....	1
White	Maunie, W	B. M. Heath's North Storms 1, ne nw sw 2-6s-10e	7-17-45	3140	3038-3078	McClosky li; Miss	P 38; 4 wtr	....	1
White	Sumpter	Lario Oil's E. Organ 1, nw nw ne 35-4s-9e	11-13-45	3379	2569-2614	Tar Springs sd; Miss	P 33; 38 wtr	....	1
		ILLINOIS—New Oil Pays							
Clay	Ingraham, W	Kingwood's Fulk 2, nw sw sw 13-5n-7e	11-27-45	2881	2826-2869	McClosky li; Miss	F 1023	....	1
Clay	Kenner	Lynn's Allen 2, se sw se 25-3n-5e	4-24-45	2207	2201-2206	Tar Springs sd; Miss	P 41; 70 wtr	....	1
Clay	Passport	Magnolia's Buerster 1, sw se nw 12-4n-8e	5- 8-45	3138	2999-3005	McClosky li; Miss	P 3; 21 wtr	....	..
Clay	Stanford	Pure & Lynn's E. F. Thompson A-1, w nw se 24-3n-7e	10- 5-45	3085	3039-3085	Rosiclare li; Miss	P 245	....	4
Edwards	Bennington	Burr Lambert's N. Van Schoick 5, nw se se 7-1n-10e	4- 3-45	3285	3236-3245	L. O'Hara li; Miss	P 105	....	1
Edwards	Cowling	G. H. Wickam's Schroeder 2, se ne se 27-2s-14w	2-20-45	2958	2152-2166	Waltersburg sd; Miss	P 50	....	4
Edwards	Samsville, N	Magnolia's Howard-Obold 1, nw sw ne 30-1n-14w	12-18-45	2912	2907-2912	Paint Creek sd; Miss	P 44; 6 wtr	....	1
Effingham	Bible Grove	Ashland's F. Wiebking 2, nw se ne 29-6n-7e	6-26-45	2848	2842-2846	Rosiclare li; Miss	P 165	....	10
Franklin	Benton	Adkins' Orient Coal 1, ne sw se 24-6s-2e	3-13-45	3045	1700-1708	Kinkaid sd; U. Miss	P 40; 5 wtr	....	1
Jefferson	Boyd	Superior's C. Schallert 1, ne se sw 18-1s-2e	9- 4-45	2350	2234-2245	L. O'Hara li; Miss	P 200; 18 wtr	....	2
Jefferson	Divide, W	Texas' K. Bayer 1, ne nw se 23-1s-3e	8- 7-45	2838	2701-2713	Rosiclare li; Miss	P 488	....	4
Jefferson	Woodlawn	Magnolia's Eubank-Winesburgh Unit 1, sw nw nw 1-3s-1e	1-23-45	1988	1976-1986	Aux Vases sd; Miss	P 305; 5 wtr	....	24
Jefferson	Woodlawn	Texas Co.'s E. Eubanks Comm. 1, sw nw se 35-2s-1e	5-15-45	3746	3660-3746	li; Devo	P 65	....	1
Richland	Calhoun	Slagter's J. H. Mullinax 1, ne ne nw 7-2n-10e	9-11-45	3162	3118-3127	Rosiclare li; Miss	P 384	....	..

Tailored" BY CLARK
PLANT AND SERVICE

The cycling plant of the Texas Units at Smith, Louisiana, operated by the Texas Company, broke all previous records by returning gas to the sand at 4650 lbs. pressure, with 12,500 BHP of Clark 2-Cycle "Angle" Compressors.



Of 7 Clark "Angles" in the Bureau of Mines Helium Plant at Otis, Kansas, 4 perform dual service, both single-stage and two-stage compression. The others provide three-stage compression of nitrogen from Conophoric pressure to 600 lbs. per square inch.

Shell Oil Company's Cole's Island Plant was the first large scale pressure maintenance project in California. Clark "Angles" compress 30 million cu. ft. of gas per day against 3600 lbs. pressure.

At each Ohio Gas Co. booster station, Clark "Angles" perform two functions. By separating moisture from gas to suspend into underground storage reservoirs, the plant increases [illegible] capacity of pipeline up to 40 million cu. ft. of gas daily.

CLARK BROS. CO., INC., OLEAN, NEW YORK
One of the Dresser Industries
New York • Tulsa • Houston • Chicago • Boston • Los Angeles • [illegible] • Buenos Aires

CLARK "ANGLE" COMPRESSORS
GAS • STEAM • DIESEL

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		ILLINOIS—New-Oil Pays—Cont'd.							
Richland	Noble	Pure Oil's Grubb A-3, ne se sw 36-3n-8e	4- 3-45	3100	2923-2932	Aux Vases sd; Miss	P 17	.....	1
Richland	Parkersburg	Bridge's Hill 1, ne sw se 20-2n-14w	7-24-45	3117	3101-3117	Rosiclare li; Miss	P 200; 200 wtr	.....	1
Wabash	Cowling	Ill. Prod. Co.'s Schmidt 1, sw sw ne 26-2s-14w	10-23-45	2871	2862-2868	Rosiclare li; Miss..	P 30; 42 wtr	.....	2
Wabash	Keensburg, E.	Myers & Miller's Laura Beall A-2, ne ne sw 11-2s-13w	5-29-45	2776	2716-2776	L. O'Hara li; Miss	P 250	.....	1
Wabash	Mt. Carmel	C. F. Skiles' Chapman 1, ne ne nw 18-1s-12w	4- 3-45	2077	2020-2045	Jackson sd;. Miss	P 175	.....	1
White	Browns ville	Pure Oil's G. C. Turner 2, se nw se 31-5s-9e	6-19-45	2949	2782-2805	Cypress sd; Miss	P 31; 2 wtr	.....	2
White	Browns ville	Skelly's L. Kisner 2, se sw se 31-5s-9e	7- 3-45	3050	3020-3026	Aux Vases sd; Miss	P 105; 50 wtr	.....	4
White	Browns ville	Weinert's Kisner 1, sw ne se 31-5s-9e	4-24-45	3186	3098-3104	L. O'Hara li; Miss	P 120	.....	3
White	Browns ville	Weinart's Kisner-Turner 2, nw ne se 31-5s-9e	4-17-45	2902	2866-2902	Paint Crk sd; Miss	P 98	.....	3
White	Calvin, N.	Pearce's Boultinghouse B-1, ne se sw 6-4s-14w	9-25-45	3149	2698-2714	Cypress sd; Miss	P 210	.....	1
White	Herald	N. V. Duncan's H. G. Aud 1, sw nw ne 27-6s-9e	2-27-45	3017	3010-3016	McClosky li; Miss	P 20	.....	3
White	Phillipstown	Johnson's S. Fieber 1, ne nw nw 25-4s-10e	10-30-45	3052	3011-3025	L. O'Hara li; Miss	P 25; 10 wtr	.....	1
		ILLINOIS—Oil Field Extensions							
Clay	Clay City	Pure's Broyles B-1, nw ne se, 14-2n-7e, ¾ mi ext	10- 9-45	3077	2952-2968	Aux Vases sd; Miss	P 12	.....	1
Clay	Kenner	J. J. Lynn's A. Craft 1, nw nw se 36-3n-5e, ½ mi sw ext. and new deeper pay.	6-19-45	2970	2928-2935	McClosky li; Miss	P 7; 100 wtr	.....	1
Clay	Sailor Springs	Doran's Brissenden 1, se se sw 16-3n-7e, 1¼ mi sw ext	5-15-45	2335	2315-2335	Tar Springs sd; Miss	P 31; 18 wtr	.....	1
Clay	Sailor Springs	McBride's Hohlbach 1, ne ne ne 14-3n-7e, 1 mi se ext	9-11-45	3081	2622-2644	Cypress sd; Miss	P 36; 11 wtr	.....	3
Coles	Mattoon	Dirickson's Pinnell 1, ne se ne 27-12n-7e, 1 mi w ext	10-23-45	2007	1996-2007	Rosiclare sd; Miss	P 209	.....	12
Coles	Mattoon	Gordon's Brining 1, ne nw ne 3-11n-7e, 2 mi sw ext	7-10-45	2038	1942-1966	Rosiclare sd; Miss	P 108	.....	21
Coles	Mattoon	H. F. Gordon's D. M. Sawyer 1, ne nw se 34-12n-7e, ½ mi n of wells in sw part of pool	11-13-45	2056	1965-2044 1802-1810	Cypress sd; Miss Rosiclare sd; Miss	P 197	.....	2
Coles	Mattoon	Hinkle's Myers 1, nw se se 15-12n-7e, ¾ mi ext	12- 4-45	2010	1963-2004	Rosiclare sd; Miss	P & F 320	.....	1
Coles	Mattoon	Luttrell's Crews 1, sw nw sw 12-12n-7e, 1 mi ext	12-27-45	1973	1941-1961	Rosiclare sd; Miss	P 158	.....	1
Coles	Mattoon	Richardson's Powell 1, se ne se 10-12n-7e, 1¾ mi n ext	11- 6-45	2007	1770-1806	Cypress sd; Miss	P 228	.....	4
Coles	Mattoon	Sheef's Bresee 1, ne ne se 15-11n-7e, 2¾ mi s ext	11-20-45	2032	1964-2032	Rosiclare sd; Miss	P 108; 7 wtr	.....	1
Edwards	Albion	Noah's Kershaw 1, ne nw nw 14-3s-10e, ½ mi sw ext	8- 7-45	2002	1991-1998	Biehl sd; Penn	P 165; 30 wtr	.....	4
Edwards	Albion, E.	Morton-Keith's Garner 1, ne ne nw 28-2s-14w, ¾ mi ne ext	2-13-45	3065	3057-3065	McClosky li; Miss	P 250	.....	2
Edwards	Bennington	Hunt's E. Weber 1, nw nw sw 8-1n-10e, ½ mi e ext	3-13-45	3310	3269-3274	McClosky li; L Miss	P 220; 83 wtr	.....	6
Edwards	Ellery, S.	Phillips' Tait 1, sw se sw 5-3s-10e, 1½ mi sw ext	7-17-45	3268	3245-3253	McClosky li; Miss	P 24; 23 wtr	.....	1
Effingham	Bible Grove	Ashland's Wiebking 1, se se ne 29-6n-7e, 1 mi nw ext	5- 8-45	2860	2856-2860	McClosky li; Miss	F 480	.....	20
Effingham	Bible Grove	Ashland's Woody 1, sw sw ne 31-6n-7e, ¾ mi w ext	11- 6-45	2962	2844-2847	McClosky li; Miss	P 201	.....	1
Effingham	Bible Grove	Waggoner's Richars 1, se sw sw 29-6n-7e, ¾ mi ext	7-31-45	2798	2792-2798	Rosiclare li; Miss	P 15	.....	1
Gallatin	Herald	F. King's H. Jones 1, n e ne se 22-7s-9e, 1¼ mi s ext	7-31-45	2913	2901-2913	Aux Vases sd; Miss	P 200; 40 wtr	.....	5
Hamilton	Rural Hill	Dirickson's Presley 1, se se sw 5-6s-6e, 1¼ mi ne ext	5-22-45	3117	3099-3115	Aux Vases sd; Miss	P 176; 4 wtr	.....	1
Hamilton	Thackeray	Nat'l. Assoc. Pet.'s Downe 1, nw nw ne 10-5s-7e, ¾ mi n ext	2-27-45	3369	3354-3369	Aux Vases sd; Miss	P 76	.....	20
Jasper	Boos, N.	Pure's Bergbower D-1, n sw ne 4-6n-10e, 1 mi ne ext	10-16-45	2810	2770-2810	McClosky li; Miss.	P 231	.....	1
Jefferson	King	Strickland's Adams 3, se ne sw 3-4s-3e, ¾ mi s ext	1- 9-45	2733	2723-2727	Aux Vases sd; Miss	P 10; 30 wtr	.....	1
Madison	Marine	Pommier's Schrieber 1, se nw sw 4-4n-6w, 1 mi nw ext	11- 6-45	1762	1734-1762	li; Sil	P 135; 15 wtr	.....	2
Madison	Marine	Rockhill's Becker 1, nw sw se 3-4n-6w, ¾ mi ne ext	1- 9-45	1775	1772-1775	li; Sil	P 52; 150 wtr	.....	5
Richland	Noble	Fulk-Cravens' Sager 1, 330 nsl 330 wel, n sw 7-3n-9e, ¾ mi ext.	1-16-45	3108	2996-3018	McClosky li; Miss	P 8; 25 wtr	.....	1
Richland	Noble, N.	Pure's A. L. Wasson 2, nw ne se 27-4n-9e, ½ mi s ext	9-18-45	2987	2951-2987	McClosky li; Miss.	F 526	.....	2
Richland	Parkersburg, W.	Wicker's Bradley 1, se se sw 25-2n-10e, 1 mi e ext	3-13-45	3305	3218-3237	L. O'Hara li; L Miss	P 5; 5 wtr	.....	1
Wabash	Mt. Carmel	Skiles-Aetna's Kolb 1, se se sw 6-1s-12w, ½ mi w ext	9- 4-45	2497	2470-2475	McClosky li; Miss	P 60; 5 wtr	.....	1
Wayne	Clay City	Olson Drlg's O. Roush 1, ne se ne 15-1n-7e, 1 mi ext	12-27-45	3138	3128-3138	McClosky li; Miss	P 90; 18 wtr	.....	1
Wayne	Cisne	Pure's Billington 2, n nw se 23-1n-7e, ½ mi e ext	10-23-45	3188	3152-3188	McClosky li; Miss	P 42; 53 wtr	.....	1
Wayne	Clay City	Pure's E. E. Grub A-1, sw se sw 4-1n-8e, 1 mi w ext	2-27-45	3269	3122-3135	L. O'Hara li; Miss	P 42; 5 wtr	.....	1
Wayne	Clay City	Pure's L. K. Secrest 1, ne ne nw 21-1n-8e, 1 mi ext	3-27-45	3141	3085-3141	McClosky li; Miss	P 34	.....	1
Wayne	Clay City	Pure's S. J. Staley 1-A, se se nw 23-2n-7e, ¾ mi ext	2-20-45	3028	2985-3003 3003-3028	Rosiclare sd;. Miss McClosky li; Miss	P 249; 49 wtr	.....	25
Wayne	Clay City	Robinson-Puckett's Molt 1, ne nw nw 33-1n-8e, 1½ mi w ext	5-29-45	3226	3023-3047	Aux Vases sd; Miss	P 123	.....	1
Wayne	Clay City	Robinson-Puckett's Molt B-1, sw se ne 32-1n-8e, 2 mi w ext	7-17-45	3204	3017-3027	Aux Vases sd; Miss	P 18	.....	1
Wayne	Clay City	Slagter's E. Groff 1, sw sw nw 31-2n-9e, 1 mi n of e end pool	11- 6-45	3090	3064-3071 3079-3082	Rosiclare li; Miss McClosky li; Miss	P 260	.....	1
Wayne	Johnsonville	Helgen (Fulk's) Weaver (Bradley)1, nw sw se 4-1s-6e, ½ mi s ext	4-17-45	3222	3200-3222	McClosky li; Miss	P 202	.....	1
Wayne	Johnsonville	Davis' L. Lowe 1, s½ se ne 5-1s-6e, ½ mi ext	6- 5-45	3324	3056-3206	McClosky li; Miss	P 27	.....	1
Wayne	Johnsonville	Fulk's Powless 1, se se se 5-1s-6e	5-15-45	3289	3240-3289	McClosky li; Miss	P & F 460	.....	13
Wayne	Keenville	Texas Co.'s Bowyer 1, se se nw 34-1s-5e, 1¾ mi sw ext	9- 4-45	2985	2974-2981	Aux Vases sd; Miss	P 41; 34 wtr	.....	1
Wayne	Leech Twp	New Penn Dev.'s Hallam 1, sw ne ne 8-3s-9e, ¾ mi nw ext	2-13-45	3522	3374-3392 3431-3443	Aux Vases sd; Miss L. O'Hara li; Miss	P 22; 8 wtr	.....	1
White	Browns ville	Lynn's Silliman 1, nw nw se 36-5s-8e, 1 mi w ext; new pay	9- 4-45	3262	2632-2656	Hardinsburg sd; Miss	P 131; 36 wtr	.....	3
White	Browns ville	Pure's M. E. Brown A-1, ne ne ne 1-6s-8e, ¾ mi sw ext	9-11-45	2680	2664-2672	Hardinsburg sd; Miss	P 225	.....	4
White	Herald	Gilpen's S. V. Bayley 1, nw sw ne 3-7s-9e, ½ mi ext	8- 7-45	2702	2686-2701	Cypress sd; Miss	P 35; 1½ wtr	.....	2
White	Herald	Luttrell's Questell 1, ne ne nw 36-6s-9e, 1½ mi w ext	8-21-45	2308	2296-2306	Tar Springs sd; Miss	P 30	.....	1
White	Herald	Yoder's Holland 1, ne sw sw 34-6s-9e, ¾ mi w ext	5-29-45	2726	2712-2726	Cypress sd; Miss	P 77	.....	7
White	Maunie, S.	Fox & Fox's E. O. Pomeroy 1, nw se se 26-6s-10e, ¾ mi sw ext	9-18-45	2944	2904-2912 2923-2932	Rosiclare li; Miss McClosky li; Miss	P 14; 5 wtr	.....	1
		INDIANA—New Oil Fields							
Gibson	Johnson, W.	Magnolia's Dike 1, sw sw sw 25-2s-13w	11-15-45	2822	2655-2662	Aux Vases sd; Miss	P 280	.....	3
Gibson	.....	Deep Vein Coal Co.'s Fee 1, ne ne se 1-2s-12w	11-15-45	2138	2124-2138	Benoist sd; Miss	P 115	.....	3
Posey	Crunk	Walter Duncan's Weinschien 1, ne ne sw 16-7s-12w	8-15-45	2712	2705-2709	McClosky li; Miss	P 91	.....	2
Posey	Farmersville	Central States Oil Co.'s Blackburn 1, sw sw nw 20-6s-13w	1-15-45	1117	1104-1117	sd; Penn	P 15	.....	7
Posey	Jefferies	Carter's Cox 1, nw nw se 14-7s-14w	7-15-45	2092	2073-2092	Tar Springs sd; Miss	P 92	.....	2
		INDIANA—New Oil Pays							
Posey	New Harmony	Sinclair-Wyoming's Elliot 1, sw ne sw 14-5s-14w	6-15-45	2442	2232-2240 2435-2442	Tar Springs sd; Miss Hardinsburg sd; Miss	P 250	.....	5
Posey	Point	Sinclair's Dora Nash 1, sw sw ne 32-7s-14w	6-15-45	2913	2721-2734 2739-2743	Aux Vases sd; Miss O'Hara li; Miss	P 18; 6 wtr	.....	1
		INDIANA—Oil Field Extensions							
Gibson	Wheeling	Farm Bureau Oil Co.'s Smith 1, se se ne 17-1s-10w	4-15-45	1062	1055-1062	Tar Springs sd; Miss	P 30	.....	17
Knox	St. Francisville	Sinclair's Brevoort 1, se se se 3-2n-11w	7-12-45	1323	1229-1232	sd; Miss	P 200	.....	2
		INDIANA—New Gas Fields							
Posey	Oliver	J. T. Peek's Reineke 1, sw ne 12-6s-13w	6-12-45	780	772- 780	sd; Miss	.....	.....	1
Ripley	.....	Seevers' E. Schulenburg 1, sw 11-6n-12e, Brown twp	10-29-45	620	610- 620	.....	F 0.02 mln	.....	..
Rush	.....	W. S. & B. E. Tonye's 1, se sw 22-12n-9e, Anderson twp	10-27-45	897	890- 897	.....	F gas	.....	..
		KANSAS—New Oil Fields							
Barber	Hargis	J. M. Huber Corp.'s Roark 1, ne sw ne 9-31s-14w	7-25-45	4365	4363-4365	Maquoketa li; Penn	F 96	.....	2
Barber	Marjorie	J. M. Huber Corp.'s Clay 1, se sw 28-30s-13w	4-22-45	4609	4605-4609	Maquoketa li; Ord	F 350	40	1
Barton	Beaver, S.	C. Elmer Ash's Reinmann 1, se se nw 27-16s-12w	10- 1-45	3363	3352-3363	Arbuckle li; Cam	Sw 360	38	2
Barton	Behrens	Solar Oil Co.'s Behrens 1, sw ne 6-20s-15w	2-25-45	3733	3729-3733	Arbuckle li; Cam	F 250	38	4
Barton	Carroll	Raymond Gear's Carroll 1, sw ne sw 21-17s-14w	2- 2-45	3370	3356-3370	Arbuckle li; Cam	P 250	.....	8
Barton	Feltes, N.W.	Black-Marshall Oil Co.'s Miller 1, sw sw se 3-16s-12w	6-28-45	3345	3342-3445	Arbuckle li; Cam	P 117; 20 wtr	36	1
Barton	Unruh	Harbar Drilling Co.'s Unruh 1, ne ne nw 24-20s-15w	7-25-45	3690	3643-3646	Arbuckle li; Cam	F 200	.....	1
Butler	Pierce	Ed Adair et al's Eaton 1, nw nw se 22-25s-4e	10-18-45	2590	2565-2590	li; Miss	P 250	45	4
Butler	Hoard	K. T. Weideman's Hoard 1, ne ne sw 28-29s-8e	10- 7-45	2844	2808-2812	li; Miss	P 25	.....	1
Butler	Smock-Sluss	J. F. Morriss Dean 1, nw nw 17-26s-6e	9-17-45	2725	2708-2725	Bartlesville sd; Penn	P 50	36	1
Cowley	Seacat	Creekmore-Rooney's Seacat 1, nwc 26-33s-4e	1-10-45	3113	3103-3108	Chat; Miss	P 153	41	2
Cowley	.....	B. B. Blair's Waldschmidt 1, nw nw sw 5-34s-6e	10-10-45	2885	2855-2885	Bartlesville sd; Penn	Sw 70	.....	2
Cowley	Tuttle	Kanotex Ref. Co.'s Tuttle 1, nw sw ne 7-34s-3e	11-26-45	3404	3385-3403	Bartlesville, sd; Penn	F 192	38	1
Cowley	Winfield, S.	W. H. Lassen's Wise 1, se se nw 1-33s-4e	4-20-45	1825	1820-1825	Elgin sd; Penn	F 200	.....	2

REED ROCK BITS

THESE
5 Points
ASSURE YOU OF
FASTER,
STRAIGHTER
FULL GAUGE HOLE
WITH
LIGHTER
DRILLING WEIGHTS

1 **The cross roller principle** of design permits the use of lighter drilling weights and reduces wear on rig equipment.

2 **Unified construction** gives a safe, rugged structure upon which to mount the cutters.

3 **All cutter teeth and gauge bevels amply hard-surfaced** with "Reedite" for wear resistance.

4 **Interchangeable slush nozzles** give correct jetting action "at the rig."

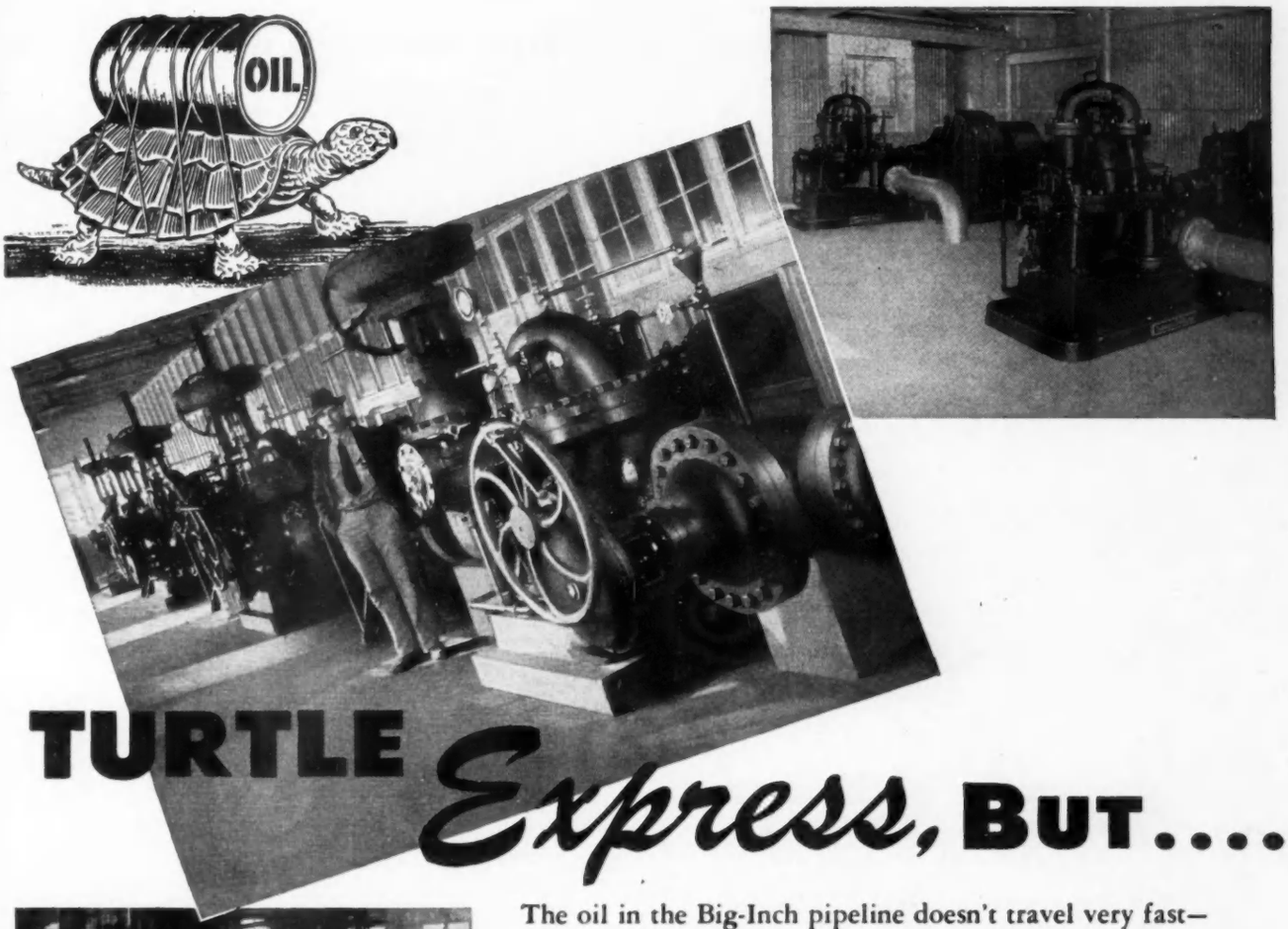
5 **Unusually strong bearing assembly** assures free cutter action.

REED ROLLER BIT COMPANY

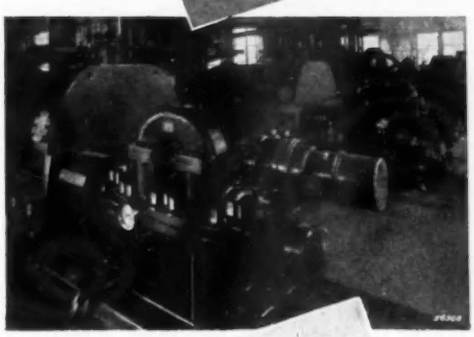
HOUSTON 1, TEXAS

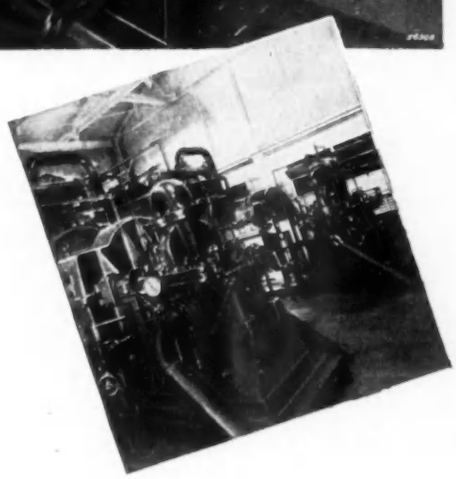
SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
Dickinson	Lost Springs, N.	National Drlg. Co.'s Doyle 1, ne se 22-16s-4e	5- 8-45	2308	2275-2308	Chat; Miss	P 80; 20 wtr	....	2
Ellis	Catherine, N.W.	Mac Cohen's Madden 1, nw nw ne 4-13s-17w	1-29-45	3618	3613-3618	Arbuckle li; Cam	P 106	28	2
Ellis	Cromb	Darby & Bothwell's Cromb 1, ne nw ne 22-11s-20w	9-18-45	3685	3467-3471	Lansing li; Penn	P 190; 20 wtr	39	1
Ellis	Richards, S.W.	Darby & Bothwell's Richards 1, se se sw 6-11s-18w	3-30-45	3610	3378-3385	Lansing li; Penn	F 125	38	1
Ellis	Nicholson	Phil-Han Oil Co.'s Nicholson 1, se se nw 30-11s-20w	10-25-45	3853	3843-3853	Arbuckle li; Cam	Sw 120	38	1
Graham	Faulkner	Wood River Oil Co.'s Faulkner 1, sw se se 27-10s-22w	2-28-45	3633	3629-3633	Marmaton li; Penn	Sw 50	....	6
Graham	Luck	Helmerich & Payne's Luck 1, ne ne 13-8s-22w	3- 2-45	3610	3414-3438	Kansas City li; Penn	P 328	38	1
McPherson	Jenday, S.	Bay Pet & Westgate-Greenland's Myers 1, ne ne nw 7-19s-1w	1-17-45	3013	2928-3013	Chat; Miss	P 301	....	10
McPherson	Battle Hill	Sharon Drlg. Co.'s Crowthers 1, nw sw nw 24-18s-1w	10- 3-45	2834	2816-2834	li; Miss	P 30	....	1
Ness	Manteno	Chalmette Pet. Co.'s Bowman 1, nw nw ne 31-19s-25w	8-17-45	4576	4553-4555	li; Miss	Sw 500	....	1
Pawnee	Benson	Skelly's Benson 1, nw nw nw 30-23s-15w	8-27-45	4156	3798-3807	Lansing li; Penn	Sw 498	27	1
Pawnee	Ryan S.	Hildebrand's Wickstrom 1, nw nw nw 12-20s-16w	12-18-45	3780	3739-3748	Arbuckle li; Cam	F 143	42	1
Phillips	Hansan	Derby Oil Co.'s DeMuth 1, ne sw ne 22-5s-20w	8- 2-45	3568	3541-3568	Arbuckle li; Cam	F 120	39	11
Rooks	McClelland	Phil-Han Oil Co.'s McClelland 1, nw nw sw 9-9s-19w	9-25-45	3529	3348-3358	Lansing li; Penn	Sw 140	38	1
Rooks		Keyes Drlg. Co.'s Neil 1, ne ne 20-9s-20w	10-16-45	3865	3848-3865	Arbuckle li; Cam	P 203	38	1
Rooks	Vohs	Darby & Bothwell's Vohs 1, ne ne ne 14-10s-19w	7-15-45	3563	3549-3563	Arbuckle li; Cam	P 380	38	1
Rush	Ryan	Inland Oil Co.'s Peterson 1, se se sw 35-19s-16w	2-24-45	3727	3725-3727	Arbuckle li; Cam	F 2800	38	23
Russell	Atherton, N.	Derby Oil Co.'s Rogg 1, se se sw 7-13s-14w	5-22-45	3200	3195-3200	Arbuckle li; Cam	Sw 850	39	2
Russell		Coralena Oil Co.'s Olson 1, csl se se 23-13s-15w	12-16-45	3336	3249-3278	Kansas City li; Penn	P 29	36	1
Saline	Salina	Westgate-Greenland's Prescott 1, nw se sw 7-14s-2w	5-19-45	3253	3238-3253	Viola li; Ord	P 245	....	13
Saline	Mentor	Mouser Drlg. Co.'s Carlin 1, ne se sw 13-15s-3w	1-23-45	3323	3256-3323	Viola li; Penn	P 77	....	1
Sedgwick	Hahn	Fulton & Turner's Hahn 1, nw nw sw 22-27s-1w	5-29-45	2832	2828-2832	Lansing li; Penn	F 100	....	1
Sedgwick	Petrie	British-American's Petrie 2, nw sw sw 36-26s-1w	8-31-45	3395	3387 3392	Simpson sd; Ord	P 417	44	1
Sedgwick		Beech Aircraft Corp.'s McLean 1, nw se nw 1-27s-1e	11-29-45	2979	2975-2977	Burgess sd; Penn	F 75	....	1
Sheridan	Studley	Continental's Hoxie State Bank 1, ne ne ne 32-8s-26w	7-24-45	4253	2662-3773	Lansing li; Penn	Sw 240	....	1
Stafford	Sand Hill	Ed Swearer's Smith 1, swc 19-21-11w	1-30-45	3556	3550-3556	Arbuckle li; Cam	P 12; 5 wtr	....	2
Summer	Perth	Carter's Latimer 1, csw ne 12-33s-2w	6-24-45	4278	4260-4265	Simpson sd; Ord	P 157	47	1
Summer	Val Verde	El Dorado Ref. Co.'s Patterson 1, sec 23-33s-2e	3-29-45	3280	3268-3280	Bartlesville sd; Penn	P 50	....	1
Sumner		Paul Hatfield's Bellman 1, ne ne sw 15-30n-1e	11-16-45	3916	3795-3802	Simpson sd; Ord	Sw & F 170	51	1
Trego	Cotton	Harver & Lee Greenburg Tr's Cotton 1, sw sw ne 15-12s-21w	2-27-45	3978	3962-3978	Kansas City li; Penn	P 50	38	1
		KANSAS—New Oil Pays							
Barber	Skinner, N.W.	Sinclair's Oldfather 1, cse 7-31s-14w	1-16-45	4561	4[illegible]4-4561	Arbuckle li; Cam	P 221; 72 wtr	....	2
Barton	Beaver	Martin & Hearing's Kultgen 1, ne se nw 16-16s-12w	10-24-45	3101	3[illegible]0-3101	Lansing li; Penn	P 10; 5 wtr	....	4
Barton	Hiss	Mercury Drlg. Co.'s Weathers 2, ne se ne 35-20s-14w	7-15-45	3549	3544-3549	Arbuckle li; Cam	P 125	....	1
Butler	Elbing	B. & R. Drilling Co.'s Schriver 1, ne ne sw 19-23s-4e	9- 5-45	2399	2378-2399	li; Miss	P 12	....	3
Cowley	Seacat	Deep Rock Seacat 1, nw ne nw 26-33s-4e	6-11-45	3108	3103-3108	Layton sd; Penn	P 10	....	2
Ellis	Catherine, N.W.	Ashland O. & R. Co.'s Schmidt 1, sw sw se 33-12s-17w	10-30-45	3522	3512 3522	Lansing li; Penn	P 215; 50 wtr	....	3
Ellis	Pleasant	Sunray's Pfeiffer 1, sw ne se 2-14s-20w	2- 6-45	3885	3883-3885	Arbuckle li; Cam	P 25	37	9
Rooks	Vohs	British-American's Perotte Est 1, ne se se 11-10s-19w	11-14-45	3595	3339-3343	Lansing li; Penn	P 537	....	1
Russell	Forest Hill	Harry Gore's Luerman 1, sw se 28-15s-12w	5-14-45	2833	2825-2833	Topeka li; Penn	P 695	....	
Sumner	Churchill	Shell's Churchill 12, cse sw 25-31s-2e	10-16-45	2657	2634-2657	Arbuckle li; Cam	P 240	....	1
Pratt	Coats	Lion Oil's Andrews 3, nw se se 24-29s-14w	11-27-45		4378-4390	Arbuckle li; Cam	F 3000	38	1
		KANSAS—Oil Field Extensions							
Barber	Margorie	Huber's Clay 1-A, nw ne nw 33-30s-13w, 1 mi s ext	9-20-45	4571	4563-4571	Maquoketa li; Penn	F 180	38	1
Barton	Albert	Nadel-Gussman's Haas 1, se sw sw 30-18s-15w, ½ mi e ext	1- 2-45	3568	3535-3568	Reagan sd; Cam	P 292	38	3
Barton	Behrens	Solar Oil's Behrens 1, sw ne 6-20s-15w, ½ mi e ext	4-24-45	3755	3650-3755	Arbuckle li; Cam	P 250	38	4
Barton	Carroll	Yellow Cab's Carroll 1, sw ne se 21-17s-14w, ½ mi e ext	6- 2-45	3370	3356-3370	Arbuckle li; Cam	P 150	39	8
Barton	Hiss	Phillips' Spani 1, ne nw ne 36-20s-14w, ½ mi w ext	1- 1-45	3263	3250-3263	Lansing li; Penn	F 31		11
Barton	Kraft-Prusa	Black-Marshall Oil Co.'s Ney 1, ne ne se 8-16s-11w	8- 4-45	3296	3295-3296	Arbuckle li; Cam	P 253	....	
Barton	Merton	Phil-Han's Mauler 1, sw sw sw 36-18s-15w, ¾ mi ne ext	12- 4-45	3571	3567-3571	Arbuckle li; Cam	P 100	....	1
Ellis	Bemis-Shutts	Nadel-Gussman's Meis 1, nw sw sw 6-12s-17w, 3 mi sw ext	5-17-45	3688	3683-3688	Arbuckle li; Cam	F 2627	32	5
Ellis	Bemis-Shutts	Nadel-Gussman's Karlin 1, se se se 1-12s-18w, 2½ mi sw ext	2- 1-45	3674	3666-3674	Arbuckle li; Cam	F 220		
Ellis	Kerzog	Gull's Dreiling 1, se se 19-13s-16w, 1 mi n ext	4- 7-45	3493	3486-3493	Arbuckle li; Cam	F 2453	....	5
Ellis	Pleasant	El Dorado Ref. Co.'s Kingsley 1, se ne se 34-13s-20w	8- 7-45	3844	3828-3844	Arbuckle li; Cam	P 500	....	15
Ellis	Walters	Nadel-Gussman's Jensen 1, sw ne sw 12-12s-18w, ½ mi ne ext	5-18-45	3663	3658-3663	Arbuckle li; Cam	P 480	32	4
Ellsworth	Stoltenburg	Nadel-Gussman's Haska 1, sw nw se 5-16s-10w, ½ mi nw ext	11-13-45	3327	3323-3327	Arbuckle li; Cam	P 1139	36	2
Horton	Ray	Helmerich-Payne's Hansen 1, csw nw 26-5s-21w, 2 mi se ext	4-22-45	3656	3654-3656	Arbuckle li; Cam	Sw 120	....	2
Reno	Zenith	Phil-Han's Johnson 1, sw se sw 30-23s-10w, ½ mi s ext	8-28-45	3714	3710-3714	Viola li; Ord	F 200	....	
Russell	Atherton	Jno. Lindas' Mills 1, ne sw ne 25-13s-15w, ½ mi sw ext	9-14-45	3315	3310-3315	Arbuckle li; Cam	P 140	40	
Russell	Trapp	R. L. Williams' Prusa 1, swc ne 20-16s-13w, ½ mi e ext	4-20-45	3400	3205-3210	Kansas City li; Penn	F 2400	36	
Sedgwick	Greenwich	J. P. Gaty's Stollie 1, se se sw 22-26s-2e, 1 mi s ext	10-19-45	2910	2896-2910	li; Miss	P 210	....	
Sedgwick	Hahn	Fuller-Turner's Ternes 1, nwc sw 22-27s-1w	8-25-45	2828	2817-2828	Lansing li; Penn	P 50; 5 wtr	38	1
Stafford	Dranch, N.W.	Faulkner's Haulman 1, ne nw ne 11-22s-13w, 1 mi nw ext	3-20-45	3757	3739-3757	Arbuckle li; Cam	P 16; 8 wtr	36	
		KANSAS—New Gas Fields							
Barber	Clara	Lion O. & Ref. Co.'s Allen 1, nw ne 1-30s-14w	3-10-45	4537	4515-4517	Arbuckle li; Cam	F 6 mln	....	3
Barber		Skelly's Boggs 1, nw nw ne 8-33s-12e	12-14-45	4493	4471-4493	Miss li; Miss	F 5 mln	....	1
Barber	Marjorie, N. E.	Lion O. & Ref. Co.'s Lemon 1, se ne ne 28-30s-13w	1-23-45	4848	4528-4545	Viola li; Ord	F 18 mln	....	3
Barber	Pearl Lake	Drillers Gas Co.'s Pearl Lake 1, sw sw 1-31s-14w	11-10-45	4409	4401-4409	Viola li; Ord	F 5 mln	....	2
Barber	Skinner	Drillers Gas Co.'s Skinner 1, nw ne 16-31s-14w	7-17-45	4344	4337-4344	Maquoketa li; Penn	F 20 mln	....	2
Barton	Dundee	Champlin Ref.'s Christianson 1, ne sw ne 29-20s-14w	5-25-45	3650	3601-3611	Arbuckle li; Cam	F 8 mln	....	2
Barton		Black-Marshall Oil Co.'s Smith 1, nw sw 20-20s-14w	12-10-45	3644	3601-3605	Arbuckle li; Cam	F 10 mln	....	1
Clark		Helmerich & Payne's Peter Est 1, nw nw se 3-31s-21w	10-22-45	5196	5172-5196	li; Miss	F 6 mln	....	1
Douglas	Lawrence, E.	J. M. Huber's Community 1, nwc 33-12s-20e	2- 3-45	1797	674- 694	Kansas City li; Penn	F 0.1 mln	....	
McPherson		J. M. Huber's Stevenson 1, nw ne se 14-20s-2w	10- 3-45	2968	2951-2968	Lansing li; Penn	F 1 mln	....	7
Meade	Adams Ranch	Stanolind's Adam 1, sw sw sw 8-35s-30w	4-30-45	7921	5850-5890	li; Miss	F 88 mln	....	1
Pawnee	Shady	J. M. Huber Corp.'s Katchelman 1, nw nw sw 34-22s-16w	11-24-45	4107	4078-4107	Arbuckle li; Cam	F 36½ mln	....	1
Rush		El Dorado Ref. Co.'s Urban 1, nw ne nw 21-16s-17w	9- 9-45	3535	3521-3535	Arbuckle li; Cam	F 1½ mln	....	1
Sedgwick		Beech Aircraft's McClelland 2, sw sw ne 6-29s-2e	9-11-45	2240	2220-2240	Lansing li; Penn	F 11¼ mln	....	1
		KANSAS—Gas Field Extensions							
Barber	Marjorie	Lion Oil's Lemon 1-B, se nw sw 21-30s-13w, 1 mi w ext	4-19-45	4701	4479-4495	li; Miss	F 13 mln	....	3
Finney	Hugoton	Atlantic's Wright 1, se nw nw 33-21s-34w, 2 mi w ext	8- 7-45	4915	2609-2618	Krider sd; Perm	F 5 mln	....	1
Stanton	Hugoton	Stanolind's CC & P 1, c 31-28s-39w, 9 mi e ext	4- 1-45	2627	2386-2530	Herrington-Krider sd; Perm	F 4.9 mln	....	1
Stanton	Hugoton	Stanolind's Col-Mac 1, c 32-30s-39w, 6 mi w ext	4- 3-45	2725	2619-2725	Herrington-Krider sd; Perm	F 9.5 mln	....	1
Stanton	Hugoton	Stanolind's Fegan 1, c 3-27s-39w, 12 mi w ext	5- 7-45	2605	2428-2450	Krider sd; Perm	F 10 mln	....	1
		KENTUCKY—New Oil Fields							
Crittenden	Fishtrap Ford	Resnick & Woodall 17-k-20	9-10-45	1400	1389-1400	Benoist sd; Miss	P 30	....	2
Daviess	Bernard	Snyder & Slaghter's Hollis 1, 9-0-30	6-17-45	872	820- 830	Tar Springs sd; Miss	P 8	....	1
Henderson	E. Corydon	Fleming and Swann's Pottinger 1, 1-0-22	5-18-45	2672	2665-2672	Cypress sd; Miss	P 125; 40 wtr	....	2
Henderson	Dixie	J. L. Sallee's Lyles 1, 21-0-22	5-21-45	2301	2289-2301	Cypress sd; U. Miss	P 375	....	26
Ohio	E. Livermore	Dameron's Stagner 1, 25-30		1419	1388-1419	Bethel sd; Miss	P 20	....	1
Todd	Elkton	Hobson and Putnam's Stinson 1, 13-D-29	8-13-45	1410	1389-1392	Devonian li	P 45; 10 wtr	....	1
Union		Cook and Locke's Proctor 1, 4-P-20	6-14-45	1190	909- 915	sd; Miss	P 8	....	1
Union	Waverly	Ashland Oil & Ref. Co.'s Verona Coal Co. 1, 7-0-21	5-30-45	2287	2280-2285	Cypress sd; Miss	P 130; 8 wtr	....	42
		KENTUCKY—New Oil Pay							
Union	Waverly	Ashland Oil & Ref. Co.'s Verona Coal Co. "B", 7-0-21	6-10-45	2551	2536-2551	Aux Vases sd; Miss	P 61	....	3



TURTLE *Express*, BUT....





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CAMERON PUMP DIVISION

10-651

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		KENTUCKY—Oil Field Extensions							
Daviess	Utica	Keith Tank Co.'s Mahan 1, 14-N-29, ¾ mi nw ext	3-16-45	1720	1708-1720	McClosky li; Miss	P 75	....	3
Henderson	Rock Springs	National Assoct'd Pet Co.'s Denton 1, 4-0-23	5-13-45	2252	2250-2252	Cypress sd; Miss	P 90	....	2
		KENTUCKY—New Gas Field							
Daviess		Sohio Pet Co.'s Sauer 1, 1-P-27	9-16-45	1934	1122-1131	Waltersburg sd; Miss	F 0.6 mln	....	1
		NORTH LOUISIANA—New Oil Fields							
Bienville	Sailes	Ohio Oil Co.'s Woodward Walker 1, 31-17s-7w	5- 8-45	7011	6799-6860	Pettit li; Cre	F 177; 4/64"	....	1
Caddo	Longwood	Phillips' Moneyham 1, c ne nw 5-18n-16w	10-29-44	6512	5855-5860	Travis Peak sd; L Cre	F 80; 8/64"	42.5	4
Claiborne	Haynesville, E.	Hunt Oil Co.'s W. T. Owens 1, 15-23n-7w	5-15-45	5520	4126-4150	Cotton Valley sd; Jur	F 2 mln; 5/8"	dist.	1
Franklin	Lamar	Atlas O & G Co.'s C. W. Sharp's J. H. Baker 2	12- -45	4940	4874-4879	Tuscaloosa sd; U Cre	F 145; 4/64"	43.6	2
Natchitoches	Ashland	M. T. Halbouty et al's C. L. Detro 1, 1-13n-8w	12-31-45	3301	3285-3296	Woodbine sd; U Cre	F 120; 8/64"	28	1
Richland	Big Creek	Southport Pet. Co.'s Lola S. Howard 1, c nw nw nw 4-16n-8e	7-17-45	3433	2965-2980	Tuscaloosa sd; U Cre	F 260; ¼"	40.1	25
Richland	Delhi	R. J. Caraway's Bryant 1, c se nw 35-17n-8e	9- 7-45	3220	3148-3168	Tuscaloosa sd; U Cre	F 199; ½"	40.5	68
Webster	N. Shongaloo	Hunt Oil Co.'s Mrs. O. G. Roberts 1, 11-23n-10w	6-18-45	11760	5734-5746	Pettitt li; L Cre	F 90; 8/64"	38.7	1
		NORTH LOUISIANA—New Oil Pays							
Clairborne	Athens	Skelly's J. G. Dance 1, (OWWO) ne sw 31-20n-6w	11- 7-45	6708	6030-6050	Pettitt li; L Cre	F 146; 4/32"	32.1	1
LaSalle	Olla	Placid Oil Co.'s Tremont Lbr. Co. 3, c ne ne 9-9n-2e	5-24-45	7130	2768-2775	Wilcox sd; Eoc	F 125; ¼"	....	..
		NORTH LOUISIANA—Oil Field Extensions							
Bossier	Benton	G. H. Vaughn's K. Odom Padgett 1, c sw ne 1-20n-13w	11-25-45	8200	8128-8150 8007-8050	Bodcaw sd; Cotn Val "D" sd; Cotton Valley	F 117; ½" F 28 mln	42	1
Concordia	Lake St. John	Carter's Geo. Murray 1, begin nwc sect 31 go 2930 se alg nl sect th 130 s at ra to lcn in 31-9n-19e, 2 mi s ext.	1- 8-45	9153	8977-9153	Tuscaloosa sd; U Cre	F 225; 4/32"	....	..
Richland	Delhi	R. Lacy's B May 1, c sw nw 26-17n-9e, 1¾ mi se ext	2-14-45	3795	3462-3470	Tuscaloosa sd; U Cre	F 232; 4/16"	34	..
		NORTH LOUISIANA—New Distillate Field							
Lincoln	Hico	Califor. Co.'s M. H. Nobles 1, 12-19n-4w	9-27-45	9137	8700-8750	Bodcaw sd; Cotn Val	F 195; ¼"	55	1
		NORTH LOUISIANA—Distillate Field Extension							
Bossier	*Benton*	Barnsdall-Sohio's Padgett-Bundy 1, c nw se 17-20n-12w	10-20-45	9307	8070-8182	Cotton Valley "D" sd	F 333; 11/64"	dist	1
		NORTH LOUISIANA—New Gas Fields							
Caldwell	Vixen	Shell's La. Central O & G Co. 1, 31-5n-3e	5-20-45	11615	9510-9584	Pettit li; L Cre	F 9½ mln;3/4"	....	1
Caddo		H. M. Bride's Texas Co.-J. S. Jolly 1, 27-22n-15w	12-15-45	2380	2360-2380		F ¼ mln	....	1
De Soto		E. P. Jarvis' Franklin et al 1, 6-11n-12w	2-10-45	2827	1760-1765		F 0.04 mln	....	1
De Soto	Ajax	Chas. C. Lowery's Tanner 1, 13-10n-11w, w Ajax prod	10-22-45	3305	3120-3140	Plauxy sd; L Cre	F 4 mln; ¾"	....	1
Franklin		American Liberty's J. B. Kny 1, nw nw 12-16n-8e	2-15-45	3772	3557-3567	Plauxy sd; L Cre	F 3 mln; ¼"	....	
Jackson	Chatham	Shell's Tremont Lbr. Co. 1, c nw se 22-15n-1w	5-22-45	10300	9580-9620	Travis Peak sd; L Cre	F 8 mln; 4/64"	....	2
		NORTH LOUISIANA—Gas Field Extension							
De Soto	Logansport	Ark-La. Gas Co.'s D. P. Fulow 1, 25-12n-16w	6- 6-45	6782	5974-6023	Pettitt li; L Cre	F 165 mln	....	..
		SOUTH LOUISIANA—New Oil Fields							
Acadia	Bayou Mallet, S.	Union Sulphur's Kahn 1, 670.8 s 695.4 w of c of 25-7s-1e	4-11-45	9614	9610-9615	Chichasahway sd; Olig	F 122; 4/64"	37.6	1
Acadia	Iota	Union Sulphur-Magnolia's Medlenka 1, 748 e 591 n of swc 11-8s-2w	1-23-45	9692	9380-9390	Frio sd; Olig	F 215; 16/64"	32	1
Assumption	Napoleonville, N. W.	Shell's Dugas & LeBlanc 1-A, 940 s 00° 30 mins w 640 s 88° 59 mins w fr nec 40-12s-13e.	3-28-45	7405	6858-6893	sd; Mio	F 212; 16/64"	39.7	1
Beauregard	Oretta	Magnolia's Musser-Davis 1, 660 s&e of nwc 33-6s-11w	3- 9-45	9103	8708-8712	Cockfield sd; Eoc	F 174; 16/64"	49	4
Beauregard	W. Pinegrove	Magnolia's Lutcher-Moore 1-C, 1980 n 660 w of sec se¼ 24-5s-12w.	2- 2-45	12640	11343-11350	Wilcox sd; Eoc	F 14; 3/8"	....	1
Calcasieu	Lake Charles	Union Sulphur's Bordages 1, 3388.2 n 1800.1 e of swc se¼ 5-10s-9w.	11-17-45	8616	8478-8490	Hackberry sd; Olig	F 615; 11/64"	....	1
Iberia	Weeks Island	Shell's Smith-State se 500-1 n 89° mins w 1925 alg nl sect 13 fr nec th s 00° 09 mins w in 13-13s-6e.	5- 9-45	14025	13505-13520	sd; Mio	F 112; 4/32"	40	1
Iberville	St. Gabriel, S.	Noble & Baker's W. E. Caldwell 1, s 18° 15 mins w th n 71° w 400.3 fr nec 52-9s-2e.	8-25-45	9304	9181-9211	Marginulina sd; Olig	F 115; 62% wtr 11/64"	43	1
Jeff Davis	S. Elton	Stanolind's Tupper 1, 1320 n 2640 w of sec 29-7s-3w	3-10-45	9255	8064-8085	Frio sd; Olig	F 237; 4/32"	38	3
Jeff Davis	Iowa Junction	Sohio's Fontent 1, 2067 n 668 w of sec se 15-10s-6w	12-27-45	11000	9694-9703	Frio sd; Olig	F 237; 16/64"	36.9	1
Jefferson	Bayou Perot	Calif. Co.'s E. P. Brady 1, start USCGS Station "Perot" go n 80° 56 mins e 6233 to lcn 2-15e-23e.	3-16-45	11035	9897-9907	sd; Mio	F 258; 16/64"	36.2	2
Rapides	Flatwoods	La. Ld. & Expl.'s J. A. Bently 2-2-A c net¼ 36-5n-5w	6-28-45	7285	6488-6494	L. Wilcox sd; Eoc	P 48	48	1
St. John	Reserve	Atlantic's Lutcher-Moore B-1, 1980 n&w of sec 33-10s-6e	1- 6-45	11626	10254-10266	Frio sd; Olig	F 308; 16/64"	42.4	1
St.Mary	Bayou Carlin	Humble's Miami Corp 1-H start USCGS Station "Twin" go s th e 8774.2 to lcn 660 s 660e of nwc T-16s-8e.	7-31-45	11919	11600-11623	sd; Mio	F 264; 4/64"	34.8	1
St. Mary	S. Jeanerette	Atlantic's Blanchard 1, 3480 n 1650 e of swc 37-13s-2e	8- 3-45	8159	7475-7480	sd; Mio	F 211; 16/64"	34.6	1
		SOUTH LOUISIANA—New Oil Pays							
Acadia	Bayou Mallet	Union Sulphur's George R. Bradley 1, 2630.9 w 4058.9 n of sec irreg sect in 51-7s-1e.	6- 2-45	9712	8538-8545	L. Marginulina sd; Mio	F 160; 4/64"	36.1	2
Acadia	Egan	Sun's B. W. Freeland 1, s 80° 42 mins e 3353, n 9° 08 mins e 665 fr swc 38-9s-1w.	3-30-45	10660	10102-10112	sd; Mio	F 170; 16/64"	38.1	1
Acadia	Gueydan, N.	Magnolia's Simon Est 2, 546 se of wl of 686-ac lse & 801 n of Bayou Queude Tottue.	11-20-45	10843	10786-10800	sd; Mio	F 325; 4/64"	40	1
Assumption	Napoleonville	Shell's C. L. Triche 1, 33-12s-13e	12-11-45	9763	9430-9478	sd; Mio	F 245; 16/64"	34.8	1
Beauregard	Mystic	Yegua Corp.'s Lutcher-Moore Lbr. Co. B-1, 1998 fr el 1981 fr nl 28-6s-12w.	1- -45	8250	8223-8226	sd; Eoc	F 172; 16/64"	46	1
Iberia	Avery Island	Humble's C. G. Hooks 1, start sec w½ sect 23 go nly alg el w½ 1547 th wly at ra 330 to lcn in 23-13s-5e.	10-14-45	11995	11870-11885	Frio sd; Olig	F 421; 4/32"	47	1
Iberia	Avery Island	Humble's Pettit Anse Co. B-2, start sec sect 23 go nly alg el sect for 1057 th 1698 wly at ra to lcn in 23-13s-5e on 20-ac tr.	11-12-44	10537	9415-9430	sd; Mio	F 194 11/64"	33.6	1
Iberville	Bayou des Glaises	Humble's Wilbert Min. Corp. C-1, start nwc sect 77 go 1333 nly alg wl th ely at ra 13 in 77-8s-8e.	1-23-45	10581	10237-10264	sd; Mio	F 321; 4/32"	36.3	1
Iberville	Bayou des Glaises	Humble's Wilbert Mineral Corp. 6-B, start sec sect 76 go nly on el 1333 th wly at ra 39 to lcn in 76-8s-8e.	10-29-45	10895	10431-10444	Frio sd; Olig	F 268; 4/64"	36.3	1
Jeff Davis	W. Tepetate	Barnsdall's Minos Miller 3, 3520 n fr swc sect 31 165 e of wl sect 31 933 s 71° e of No. 2 on same lse in 31-7s-2w.	4- 3-45	8572	8398-8420	Frio sd; Olig	F 1057; ¼"	35.2	1
Plaquemines	Potash	Humble's Orleans Levee Board 1-B, start m nly cor sect 14 go swly alg nwl 1850 th sely at ra 100 to lcn in 14-18s-15e.	3-21-45	10910	10869-10879	sd; Mio	F 267; 4/64"	31.7	1
Plaquemines	Venice	Tide Water's Buras Lev Dist 28, 1650 s & e nwc 23-21s-30e	12-17-45	11716	11536-11545	Mio sd; Mio	F 189; 16/64"	37.2	
Plaquemines	Venice	Tide Water's Manhattan Land & Fruit Co. 1-C, 990 s 1650 e of nwc 23-21s-30e.	4-26-45	12431	11867-11898	sd; Mio	F 253; 4/32"	35	1
Plaquemines	Venice	Tide Water's Manhattan Ld. & Fruit Co., 19, 2340 s 440 w of nec 26-21s-30e.	7-14-45	9852	7960-7980	sd; Mio	F 173; 16/64"	31.9	1
St. Charles	Good Hope	Shell's Blythe Unit 2-1, 877.6 n 48° 56 mins e th 625.8 s 44° 64 mins e fr m/nwly cor 41-12s-8e.	12-29-45	9396	9133-9140	Mio sd; Mio	F 215; 16/64"	33.5	..
St. Mary	Belle Isle	Sun's Belle Island Corp. 7, 702 s 101 e of nwc 1-18s-10e	12-29-44	8565	8248-8270	sd; Mio	F 227; 16/64"	33.6	1
Vermilion	W. Gueydan	Pure's Ferguson-Benoit 2, 823.5 s 400 w of nec sw¼ 5-12s-2w, se flank of fld.	1- 6-45	10772	10050-10070	sd; Mio	F 182; 4/64"	38.7	1
Vermilion	W. White Lake	Union of Calif.'s State-White Lake 1-B, 2660 e 1320 s of State 1-A, disc well, T-14s-2w.	1- 8-45	11995	11840-11845	sd; Mio	F 92; 4/64"	33.8	1

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SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		SOUTH LOUISIANA—Oil Field Extensions							
Lafayette	N. Cankton	Shell's F. A. Broussard 1, 3890.2 s 1° 15 mins w 450 s 88° 45 mins e of nwc 65-8s-4e, e of prod.	10–17–45	11155	10640–10655	Frio sd; Olig	F 560; 4/64"	35.4	1
St. John	Laplace	Atlantic's Lutcher-Moore 2-A, 660 n&e of swc 1-11s-7e	2–14–45	11102	10340–10354	sd; Olig	F 206; 1/8"	51.8	1
		SOUTH LOUISIANA—New Distillate Fields							
Iberia	Iberia	Humble's Mayo Romero 1, start m/ely/s cor sect 2 go nely alg sel 2300 th nwly at ra 650 to lcn 2-12s-7e.	12–27–45	11330	11010–11017	Mio sd; Mio	F 5; 1 mln; 4/64"	51.2	..
Cameron	Mud Lake	Magnolia's Lutcher A-1, 2300 n 2000 e of swc of 32-14s-11w	10–18–45	11923	10652–10660	Hackberry sd; Olig	F 48; 5/32"	59.5	1
		SOUTH LOUISIANA—New Distillate Pays							
E. Baton Rouge	University	William Helis's R. B. Nelson 15, begins nec sect 65 go s 31° 88 mins w for 2266 on sect line th s 58° 52 mins e 460 at ra in 26-7s-1w.	10–21–45	9991	9955–9970	Frio sd; Olig	F 160; 4/16"	51.5	1
Jeff Davis	W. Tepetate	Barnsdall's Joe Fuselier 3, 38-7s-3w, 1416.6 fr well No. 2 on same lse, n offset to Miller 1, disc well.	3– 6–45	9312	9272–9278	Frio sd; Olig	F 97; 1/8"	62.46	1
St. Landry	Cankton	Danciger's Pothier 1, 1391 n 330 w of sec 12-8s-3e nw Sun's Boagni disc well (OWWO).	11– 8–44 1–30–45	10255	10050–10064	Frio sd; Olig	F 113; 5/32"	65	1
St. Martin	St. Martinville, N. Flk	Continental-Standard of Kansas' Liquidators 1, 990 ne of swl 990 se of 261.23-ac tr in 135-10s-6e.	3–26–45	11428	9692–9765	sd; Mio	F 58; 4/16"	48	1
St. Mary	N. Jeanerette	Atlantic's Teche Sugar Co. 1, 7000 s 2735 e of nwc 19-13s-9e	1–25–45	12992	11880–11892	sd; L Mio	F 76; 4/16"	50.5	1
Terrebonne	Lake Barre	Texas Co.'s State-Lake Barre 44, 19-21s-20e	7– 5–45	13259	11772–11790	sd; Mio	F 41; 1/8"	54	1
		SOUTH LOUISIANA—Distillate Field Extension							
St. Landry	Shuteston	Claude F. Morgan's Frank Dimmick 1, 1650 n 80° 45 mins w 340 n 90° 15 mins e of sec of 173-7s-4e.	1–17–45	10414	10367–10375	Chickasahway sd; Olig	F 32; 5/32"	51	1
		MICHIGAN—New Oil Fields							
Allegan	Dumont Lake	C. W. and Spencer Cook's Boyer 1, sw se sw 32-3n-13w	8–11–45	1480	1475–1478	Traverse li; Devo	P 60	41	1
Allegan	Heath	S. L. McCall's Erwin 1, nw nw ne 35-3n-14w	8–15–45	1470	1468–1470	Traverse li; Devo	P 40; 10 wtr	42	1
Bay	Bangor	Gulf's Douvice 1, n½ nw ne 9-14n-5e	10– 9–45	2924	2850–2919	Dundee dolo li; Devo	P 17; 5 wtr	39	1
Clare	Harrison	Pure's Powell 1, n½ sw nw 7-18n-4w	8– 3–45	4348	4223–4225	Dundee dolo; Devo	P 50	39.7	1
Genesee	Forest	H. H. Heinig's Elliott 1, w½ nw se 12-9n-8e	8– 4–45	1506	1502–1506	Berea sd; l; Miss	P 8	....	1
Gratiot	Elba	A. E. William's Cook 1, sw se sw 14-9n-1w; now abn'd	8–14–45	2438	2436–2438	Traverse li; Devo	Sw 60	42	..
Huron	Dwight	C. W. Teater's Ingash 1, se se se 21-18n-15e	3–21–45	2878	2865–2878	Monroe li, Dolo; Devo	Sw-F 15	....	1
Kent	Rockford	S. L. McCall's Hutchins 1, ne ne sw 25-9n-11w1, Algoma twp	5–28–45	2213	2204–2208	Traverse li; Devo	F 41; 2 wtr	42	3
Kent	Tyrone	Byron MacCallum's Green 1, n½ sw nw 27-10n-12w	12–15–45	2380	2367–2375	Traverse li; Devo	P 15; 10 wtr	37	1
Mecosta	Wheatland	Smith Pet Co.'s Ortwein 1, se nw ne 7-14n-7w; now abn'd	4– 5–45	3688	3685–3688	Dundee li; dolo; Devo	P 34; 9 wtr	43	..
Montcalm	Cato	Gordon Oil Co.'s Paris 1, se nw nw 6-12n-8w; now abn'd	1–23–45	3604	3542–3545	Monroe dolo; Devo	P 240; 480 w	....	1
Montcalm	Douglass	Union Drlg. & L. T. Barbers' Gyger 1, w½ se nw 1-11n-7w	9–29–45	3397	3391–3397	Dundee li, dolo; Devo	F 175; 3/4"	47.1	3
Osceola	N. Cedar	Sun's State B-1, s½ nw ne 10-18n-9w; disc well abn'd	4– 6–45	4067	3944	Dundee li; Devo	P 18	....	..
Osceola	Ashton	Lupher Drlg. Co.'s Kessinger 1, se se nw 5-18n-10w	8– 9–45	2948	2945–2945	Traverse li; Devo	F 500; 25 wtr	42	1
Roscommon	Roscommon	E. V. Hillard's State D-1, e½ se se 19-21n-3w	10– 1–45	3183	3163–3175	Traverse li; Devo	F 35	44	1
Tuscola	Gagetown	Shell's Hutchinson 1, ne ne nw 21-14n:10e, Elmwood twp	5– 9–45	3945	2740–2760	Dundee li; Devo	P 115; 9 wtr	28.4	1
		MICHIGAN—New Oil Pays							
Isabella	Broomfield	Wicklund Dev Co.'s Hein 1, se se se 13-14n-6e	7– 5–45	3856	2156–3160	Traverse li; Devo	F 21	41	1
Mecosta	Fork	Sun's Denslow 1, s½ se ne 2-16n-8w	3–16–45	5198	5001–5017	Richfield dolo; Devo	F 48	54.8	1
Osceola	Ashton	Pure's Carr 1, nw ne sw 5-18n-10w	12– 1–45	3676	3620–3640	Monroe dolo; Devo	P 17	40	2
Osceola	Cedar	Ohio Oil Co.'s Boettcher 1, s½ nw se 28-18n-9w	7– 3–45	5160	5100–5145	Richfield dolo; Devo	F 48	46	1
		MICHIGAN—Oil Field Extension							
Allegan	S. Monterey	H. C. William's Kern 1, se nw sw 24-3n-13w, 1¼ mi e ext	3– 1–45	1661	1659–1661	Traverse li; Devo	P & F 200	....	1
		MICHIGAN—New Gas Fields							
Clare	Surrey	Mich. Cons. Gas Co.'s Frizzell 1, c ne 23-17n-5w	4–30–45	1471	1448–1465	Mich. Stray sd; Miss	F 0.5 mln	....	1
Isabella	Gilmore	Sohio's Gas Unit 2, se nw se 26-16n-5w	11– 5–45	1569	1556–1565	Mich. Stray sd; Miss	F 1.7 mln	....	2
Mecosta	Colfax	Mich. Cons. Gas Co.'s Bush 1, c sw 4-15n-9w	4–17–45	1301	1295–1300	Mich. Stray sd; Miss	F 9.3 mln	....	4
Mecosta	Morton	Chapman Oil-W. Mich. Consumer's Minkel 1, s½ sw sw 7-14n-8w	10– 2–45	1328	1324–1328	Stray sd-li; Miss	F 2.8 mln	....	2
Newaygo	Goodwell, S.	Taggert Bros.' Helms 1, sw sw sw 24-14n-11w	12– 2–45	1201	1180–1195	Mich. Stray sd; Miss	F 0.6 mln	....	1
Osceola	Orient	Sohio's Gas Unit 1, se nw se 13-17n-4w	11–13–45	1517	1472–1500	Mich. Stray sd; Miss	F 1.3 mln	....	1
Ottawa	Jamestown	Clawson Dev.'s Van Bronkhorst 1, sw ne sw 29-5n-13w	11–27–45	1645	919– 933	Berea sd; Miss	F 0.8 mln	....	1
		MICHIGAN—New Gas Pays							
Clare	Harrison	W. C. Taggart's Sanford 2, c sw 7-18n-4w	8–19–45	1656	1650–1656	Mich. Stray sd-li; Miss	F 10.4 mln	....	2
Isabella	Coldwater	Sohio Pet Co.'s Gas Unit 1, c sw 29-16n-6w	4–26–45	1404	1390–1404	Mich. Stray sd-li;Miss	F 8.4 mln	....	8
Osceola	Cedar	Ashby Drlg. Co.'s Boettcher 1, c nw se 28-18n-9w	12– 6–45	1560	1556–1560	Mich. Stray sd; Miss	F 3/4 mln	....	1
		MISSISSIPPI—New Oil Fields							
Clarke	Quitman	L. J. Rousell's Long Bell Co. 1, se sw 10-2n-16e	10–21–45	3808	3714–3717	Eutaw sd; U Cre	P 37; 5% wtr	13.6	1
Jefferson	Fayette	Humble's M. R. Smith 1, 660 n & w sec 12-9n-1e	8–14–45	11299	9675–9739	Massive sd; Cre	F 217; 1/8"	36.3	1
		MISSISSIPPI—Oil Field Extensions							
Adams	Cranfield	Calif. Co.'s Ella G. Lees 3, 29-7n-1w, 1¼ mi ne ext	5– 4–45	10358	10248–10315	Massive sd; Cre	F 290; 4/64"	39	3
Franklin	Cranfield	Gulf's Ella G. Lees 1, nwc 32-7n-1e, 1½ mi e ext	8– 2–45	10520	10396–10480	Massive sd; Cre	F 298; 11/64"	38.8	2
Lamar	Baxterville	Superior's Batson 1, nw ne sw 17-1n-16w, 1½ mi se ext	3– 1–45	8846	7496–8844 8770–8844	Tuscaloosa sd; Cre Massive sd; Cre	F 10; 4/64" F 582; 1/4"	48.4 16	2
Lamar	Baxterville	Superior's Batson 4, sec sw nw 20-1n-16w, 1 mi s ext	10–23–45	9489	8642–8940	Tuscaloosa sd; Cre	F 398; 1/2"	14.5	1
Marion	Baxterville	Texas Co.'s L. V. Ladner, sec ne 12-1n-7w, ½ mi sw ext	8– 9–45	9012	7707–8028 8708–9012	Eutaw sd; Cre Massive sd; Cre	F 2 mln; 4/64" F 303; 4/64"	gas 16.4	1
Wayne	Eucutta	Gulf's W. F. Davis 1, 660 s&e nwc sw 2-9n-9w; 1 mi w, 1 mi s ext.	5–15–45	5273	5164–5180 5245–5260	Eutaw sd; U Cre	F 236; 11/64"	32.7	6
		MISSISSIPPI—New Distillate Fields							
Adams	Carthage Point	Pure's McDowell 2, 1600 nsl 2300 ewl, 12-6n-3w	1– 8–45	12149	10273–10286	Tuscaloosa sd; U Cre	F 91; 1/4"	51.7	1
Marion	Hub	Humble's A. Evans 1, 660 ft s, 1980 ft w, nec 15-2n-18w	3– 3–45	9554	9066–9236	Tuscaloosa sd; U Cre	F 716; 1½ mln	52	3
		MISSISSIPPI—New Gas Fields							
Jasper	Soso	Gulf's Edwards-Bailey 1, 27-10n-13w	3– 2–45	8153	6590–6600	Christmas sd; Eutaw	F 65; 4/64"	67	1
		MONTANA—New Oil Fields							
Carbon	Clark's Fork	General's Government 1, c nw nw 25-95-22e	2– 2–45	6525	6525	2nd Frontier sd; Cre	F 200	47	..
Pondera	Brady	Texas Co.'s McCann 1, se nw se 21-27n-2w	5–18–45	1502	1468–1496	Sunburst sd; L Cre	P 7½; 1½ wtr	....	..
Pondera		Texas Co.'s Weikum 1, nw nw nw 27-27n-2w	1–26–45	1517	1497–1517	Sunburst sd; L Cre	Sw 12½	....	..
Toole	Devon	Texas Co.'s Eckholt 1, nw sw nw 3-32n-1e	1–20–45	1653	1651–1653	Madison li; Miss	P 12	31	3
		MONTANA—New Oil Pays							
Glacier	Cut Bank	Carter's Brindley 1, c ne ne 12-36n-6w	10–27–45	3087	3084–3087	Madison li; Miss	Sw 140	37	..
Glacier	Cut Bank	Schrock's Fifer 1, nw nw nw 21-15n-3Ce	10–20–45	1395	1392–1394	Ellis, Jur	F 300	51	..
		MONTANA—Oil Field Extension							
Took	Kevin-Sunburst	Consolidated's Gillespie 1, se nw se 15-35n-4w, new high w Rimrock pool, 2 mi fr Kevin-Sunburst prod.	4–23–45	2341	2310–2332	Ellis-Madison; Jur-Miss	P 120; 130 w	....	..
		MONTANA—New Gas Field							
Liberty	Keith	Texas Co.'s Cicon 1, ne nw sw 29-36n-6e	1– 2–45	3221	2884–2920	.....	F 3 mln	....	..

EXECUTIVE OFFICES:
PITTSBURGH, PA.

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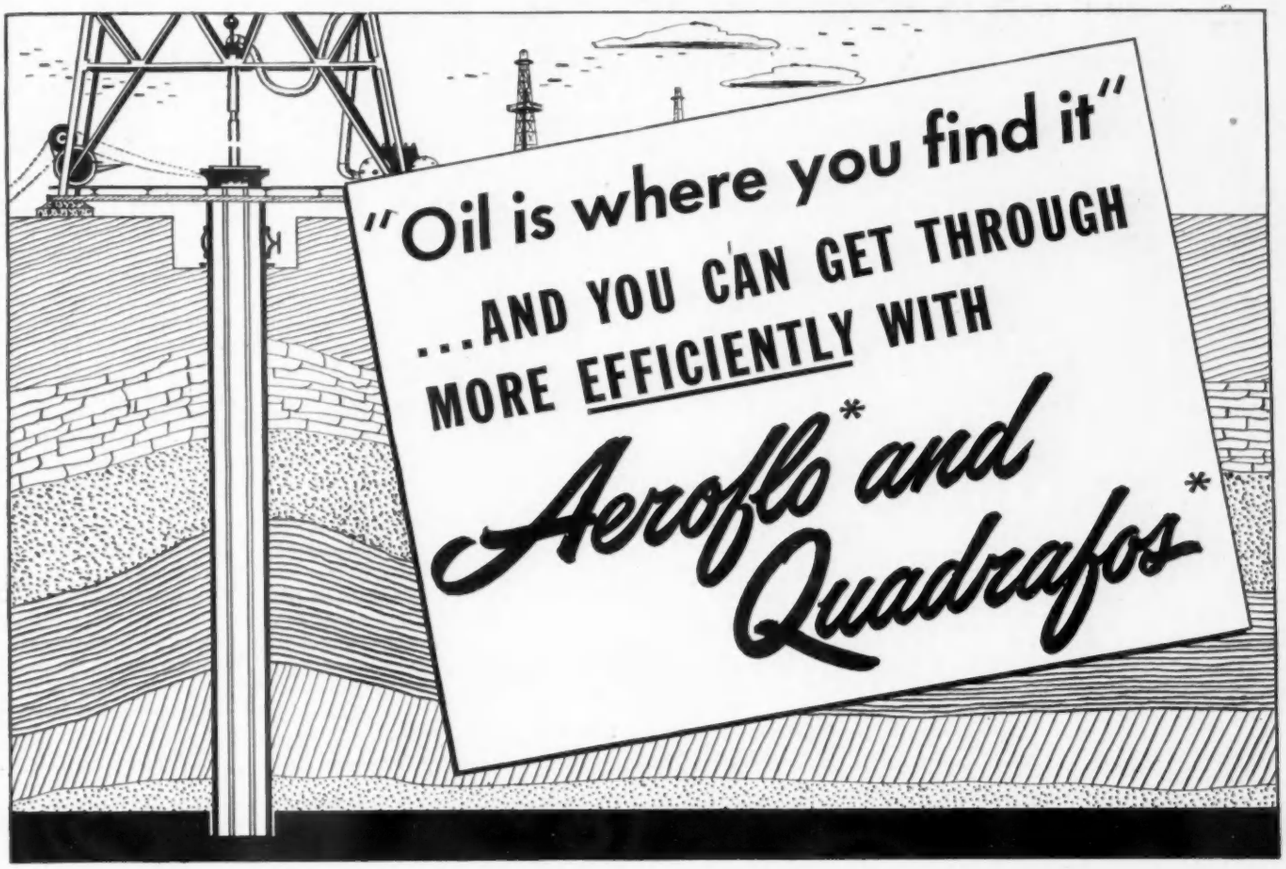
DIVISION OF THE NATIONAL SUPPLY COMPANY

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		NORTHWEST NEW MEXICO—Oil Field Extension							
San Juan	Barker Dome	Southern Union's Barker Dome 11, se nw 16-32n-14w, 1 mi n ext of disc L. Penn well.	.....	9004	8990-9004	sd; L Penn	F 41 mln	....	..
		NORTHWEST NEW MEXICO—New Gas Pays							
San Juan	Barker Creek	Southern Union's Barker Creek 9, se se nw 21-32n-14w	8-10-45	9468	8400-8570	li; U Devo	F 60 mln	....	..
San Juan	Kutz Canyon	Southern Union's Cain 1, sw sw 15-28n-10w	.....	1395	1350-1395	Farmington sd; U Cre	F 2 mln	....	..
		SOUTHEAST NEW MEXICO—New Oil Fields							
Lea	Paddock	Gulf's E. T. Paddock 1, c sw se sec 1-22s-37e	4- 7-45	5843	5200-5230	Glorietta li; Perm	F 610; 1"	38.4	17
Lea	Young	E. J. McCurdy Jr.-McElroy Ranch Co.'s State-Young 1, c ne nw 20-18s-32e, 2¾ mi s by w Maljamar fld.	2-14-45	3783	3765-3778	Queen sd; Perm	F 376; 2"	38.5	1
Lea	.....	W. H. Peckham's (T. B. Brown-Olen F. Featherstone's) Watkins 1, (OWWO) c sw se 31-18s-32e, 2½ mi sw Young pool.	12-29-45	4180	3566-3606	Sandy li; Perm	P 16	....	1
		SOUTHEAST NEW MEXICO—New Oil Pays							
Lea	Drinkard	Gulf's State-T. R. Andrews 1, c nw ne sec 32-22s-38e	5-22-45	7400	6925-7000	Wichita-Albany; Perm	F 616; 11/64"	38.3	8
Lea	Drinkard	Texas Co.'s A. H. Blinebry 1, c sw se 19-18s-38e	6-30-45	7517	5580-5625	Clear Fork li; Perm	F 135; 24 wtr 3"	43	2
Lea	Paddock	N. G. Penrose's L. B. Jones 1, c sw sw 6-22s-38e	11-26-45	7205	7040-7160	Basal-Yeso li; Perm	F 187; 1/4"	39	1
Lea	Penrose-Skelly	Amerada's State 1-PB, c sw sw 16-23s-37e	11-23-45	5075	5015-5065	Glorietta li; Perm	F 178; 1/4"	39	1
Lea	Penrose-Skelly	N. G. Penrose's Penrose-Federal 1, c se nw 9-22s-37e	9-14-45	8370	8059-8140	Ellenburger dolo; Ord	F 1560; 1½"	41	1
Lea	Penrose-Skelly	Rowan Drlg. Co.-N. G. Penrose's E. M. Elliott 1-B-15, c nw ne 15-22s-37e, offsetting 3700-ft prod.	12- 8-45	7365	6445-6525	Yeso li; Perm	F 349; 35 wtr; ¼"	....	1
		SOUTHEAST NEW MEXICO—Oil Field Extensions							
Lea	Cap Rock	Livermore's Williams 1, c nw ne 7-13s-32e, 1¾ mi s ext	3-23-45	3064	3045-3064	Queen sd; Perm	P 12	38	1
Lea	Drinkard-Yeso	Samedan's Boyd 1, c nw se 23-22s-37e, 1⅞ mi sw ext	4-24-45	6455	6370-6440	Yeso li; Perm	F 182; ¼"	39.6	3
		SOUTHEAST NEW MEXICO—New Gas Field							
Eddy	.....	Nipper & McKinney's State 1, c sw sw 21-20s-28e	4- 2-45	933	685- 750	Yates sd; Perm	F 3 mln; 2"	....	1
		SOUTHEAST—NEW MEXICO—New Gas Pay							
Lea	Drinkard	Phillips' Sims 1, c nw sw 24-22s-37e	11- 8-45	7377	5459-5484	U. Yeso (Clear Fork) li; Perm	F 3.8 mln; 2"	....	1
		OHIO—New Oil Pay							
Holmes	Big Prairie	Ohio Fuel Oil Co.'s M. V. Miley 2, sec 33 Ripley twp	7-22-45	3270	3228-3251	Clinton sd; Sil	F 60	....	..
		OHIO—Oil Field Extensions							
Muskingum	Salt Creek	Indstrl Gas' Murphy 1, sec 28, Salt Crk twp, ½ mi n ext	2- 5-45	4256	4251-4256	Medina sd	P 46	....	..
Perry	Clayton	Wiser Oil's Ream 1, sec 36, Hopewell twp, 1 mi nw ext	4-27-45	3113	3077-3113	Clinton sd; Sil	F 97	....	..
		OHIO—New Gas Fields							
Ashland	.....	Ditch-Gerig's E. E. Drake 1, Lot 33, Sullivan twp	6-26-45	2548	2633-2644	Clinton sd; Sil	F 2.7 mln	....	..
Coshocton	.....	Pure's W. M. Cullison 1, sec 10, Perry twp	2-15-45	3168	3110-3166	Clinton sd; Sil	F 2; 1.2 mln	....	..
Hocking	.....	Preston's Sunday Crk Coal 253, sec 2, Starr twp	3- 4-45	1162	1157-1162	Berea sd; Miss	F 1.2 mln	....	..
Lorain	.....	Hanley-Bird's Mlazovsky 4, lot 22, nw Grafton County	3-10-45	2506	2490-2504	Clinton sd; Miss	F 3.3 mln	....	..
Mahoning	.....	Ohio Oil Co.'s D. B. McCuen 1, sec 11, Goshen twp	7-24-45	3636	3608-3626	Oriskany sd; Devon	F 4 mln	....	..
Medina	.....	H. C. Bishop's Rasor-Seiberling 1, lot 2, Wadsworth twp	10-15-45	3712	3669-3675	Clinton sd; Sil	F 0.1 mln	....	..
Medina	.....	P. Ringler's H. L. Low 1, sec 8, Homer twp	11-16-45	2843	2826-2836	Clinton sd; Sil	F 0.2 mln	....	..
Muskingum	.....	B. G. Bartley's John Burrier 1, sec 8, Hopewell twp	5-10-45	3256	3241-3256	Clinton sd; Sil	F 1.3 mln	....	..
Muskingum	.....	Ohio Fuel's Mary Butler 1, sec 5, Newton twp	6-15-45	3508	3457-3502	Clinton sd; Sil	F 0.3 mln	....	..
Muskingum	.....	South Penn Oil's H. M. Vernon 1, Adams twp, sec 19	7-18-45	4344	4180-4226	Clinton sd; Sil	F 0.3 mln	....	..
Muskingum	.....	Wasson & Co.'s Bell 1, Harrison twp	2-28-45	4228	4200-4228	Clinton sd; Miss	F 30; 3 mln	....	..
Perry	Monroe Twp	Ohio Fuel's Sunday Crk Coal 259, sec 1, Monroe twp	4-22-45	4021	3983-4018	Clinton sd; Sil	F 0.8 mln	....	..
Portage	.....	Roy Weed's Melvin Roberts 1, lot 11 Aurora twp	2- 3-45	3945	3858-3930	Clinton sd; Sil	F 0.4 mln	....	..
Richland	.....	Ohio Fuel's D. R. Culler 1, sect 3, Monroe twp	10-16-45	2642	2628-2635	Clinton sd; Sil	F 1 mln	....	..
Tuscarawas	.....	Frank Lyon's W. Porter 1, lot 37, Washington twp	2-20-45	3478	950-1010 3460-3470	Berea sd; Miss Oriskany sd; Devo	F 2.2 mln	....	..
		OHIO—New Gas Pay							
Summit	Bath	Wiser Oil Co.'s H. J. Steiner 2, lot 44, Bath twp	2- 7-45	3094	3065-3094	Newburg sd; Sil	F 1 mln	....	..
		OHIO—Gas Field Extensions							
Ashland	Ashland	Ohio Fuel's Hiett, sec 24, Mifflin twp, 1 mi w ext	11- 5-45	2652	2644-2652	Clinton sd; Sil	F 2 mln	....	..
Guernsey	Wheeling	Ohio Fuel's Worthing No. 1, sec 23, Wheeling twp, 1 mi w ext	8-24-45	3334	3312-3334	Oriskany sd; Devo	F 1.9 mln	....	..
Lorian	Huntington	Glen Harmon's H. C. Hicks 2, lot 2, Huntington	3- 8-45	2456	2442-2456	Clinton sd; Miss	F 8 mln	....	..
Lorain	Wellington	Glen Harmon's H. Sooy 1, lot 4, Penfield twp, 1 mi e ext	4-11-45	2408	2390-2408	Clinton sd; Sil	F 8 mln	....	..
Muskingum	Duncan Falls	Indus. Gas' Myers-Hock 1, sec 20 Salt Crk twp, ½ mi e ext	8-30-45	4231	4190-4224	Clinton sd; Sil	F 2.6 mln	....	..
Perry	Hopewell	Sloan's Underwood 1, sec 32, Hopewell twp, 1 mi s ext	11-10-45	2977	2945-2977	Clinton sd; Sil	F 0.6 mln	....	..
Stark	Sandyville	Wm. Pfeiffer's Geo. Wade Hrs 1, sec 33 Perry twp	9-18-45	4339	4312-4339	Clinton sd; Sil	F 1.2 mln	....	..
Stark	Sandyville	Republic Steel Corp.'s Fee 1, Sec 2, Canton twp	12-15-45	4698	4607-4696	Clinton sd; Sil	F 1.5 mln	....	..
Stark	Stark	Belden Stark's Infirmary 1, sec 33, Plain twp, 1½ mi s ext	7-10-45	4643	4576-4634	Clinton sd; Sil	F 2.4	....	..
		OKLAHOMA—New Oil Fields							
Bryan	Aylesworth, S E.	Amerada's Williams 1, ne ne sw 27-6s-7e	2-23-45	3257	2910-3005	Bromide sd; Ord	F 193	....	3
Carter	Camp	Continental's Dotson 1, sw ne nw 7-2s-w2	5-21-45	6478	6300-6478	Penn sd; Penn	P 100	....	1
Cimarron	Keyes	Pure's Oklahoma-State 1, se se nw 7-5n-8ecm	9-18-45	5160	4786-4790	Cimarron sd; Penn	F 50	....	1
Cleveland	Corbett, W	Magnolia's Anneler 1, csw ne 26-6n-1w	2- 6-45	7035	6075-6083	Bartlesville sd; Penn	F 110	....	1
Cleveland	Moore-Harp	O. G. Harp's Matheson 1, ne nw ne 19-10n-2w	8-21-45	7624	7568-7615	Bartlesville sd; Penn	P 60	39	1
Comanche	Lawton, N. E.	J. M. Womack's Fullerton 1, se sw ne 21-2n-10w	11- 6-45	994	970- 994	.....	P 140	....	1
Creek	.....	Dale Sneed's Eaton 1, sw ne se 12-14n-10e	3-15-45	2595	2550-2594	Dutcher sd; Penn	P 45	38	1
Garfield	Barnes, N	Con-Tex Pet. Co.'s Wolfe 1, ne sw sw 34-24n-3w	2-20-45	4847	4833-4847	Wilcox sd; Ord	F 1096; ¾"	....	1
Garfield	Brown, E	Gulf's Decker 1, se sw nw 12-20n-4w	9-18-45	6158	6079-6156	Wilcox sd; Ord	Sw 45	41	1
Garfield	Hunter, S. W	Atlantic's Schmidt 1, se sw sw 25-24n-5w	12-19-45	6303	6140-6148	Wilcox sd; Ord	D 210; ¼"	42	1
Garfield	New Garber	Cities Service's Mariner 1, nw ne nw 6-22n-3w	1-31-45	5279	5249-5279	Arbuckle li; Cam	F 2500; ¾"	41.5	2
Garvin	Antioch	Cities Service's Abernathy 1, se sw se 13-3n-2w	6-29-45	5502	5494-5502	Bromide sd; Ord	P 220	41	1
Garvin	Butterly, N. E.	Continental's Butterly 1, nw sw se 14-1n-1e	10- 5-45	4422	2629-2632	Oil Creek sd; Penn	Sw 150	38	1
Greer	Lake Creek	E. M. Thomasson's Craig 1, nw se se 3-6n-21w	2- 1-45	635	607- 632	Granite wash cgl;Perm	P 10	36	1
Jackson	Altus, E	Texas Co.'s Holt 1, ne ne se 8-1n-19w	9-23-45	2976	1419-1433	Granite wash cgl; Perm	P 84; 10 wtr	....	1
Kingfisher	Cashion, N. W	Phillips' Jirick 1, csw sw 26-16n-5w	8-27-45	7390	7121-7150	Hunton li; Devo	F 200; ¼"	....	2
Kiowa	Carnegie, S. W	Fox & Fox's Pounds 1-A, nw sw sw 36-7n-14w	11-17-45	784	768- 784	Wichita sd; Perm	F 100	....	8
Kiowa	Hobart, N. E	Pure's Hinton 1, se nw nw 10-7n-17w	1- 1-45	1784	1728-1745	Pontotoc sd; Penn	F Pot. 1659	37	4
Lincoln	Parkland	R. L. Kemp's Brown 1, sw ne se 20-16n-5e	12- 9-45	4022	3375-3380	Prue sd; Penn	F 250; 5 mln	45	1
Lincoln	Sparks, S	Midstates Oil Corp.'s Barnes 1, csw se 19-13n-5e	1-14-45	3700	3640-3655	Prue sd; Penn	P 50	36	1
Lincoln	.....	Four States Oil Co.'s Watson 1, se se ne 13-15n-4e	11-14-45	3550	3540-3550	Prue sd; Penn	F 50	....	1
Logan	Evansville,N. W.	Texas Co.'s Arundel 1, se ne sw 2-15n-1w	7-22-45	5922	5238-5270	Bartlesville sd; Penn	Sw 250	....	2
Logan	Lovell, E	Phillips Pet. Co.'s Mize 1, cse se 25-18n-4w	12- 5-45	4862	4786-4812	Layton sd; Penn	F 987	38	1
McClain	Lindsay, N	Cities Service's Lawson 1, csw nw 22-5n-4w	8- 7-45	10995	10950-10990	Simpson sd; Ord	F 1284; 1"	44.7	1
Major	Ringwood	Superior of Calif.'s Manning 1, ne ne nw 27-22n-10w	10-15-45	8270	6740-6780	Prue sd; Penn	F 60	38	1



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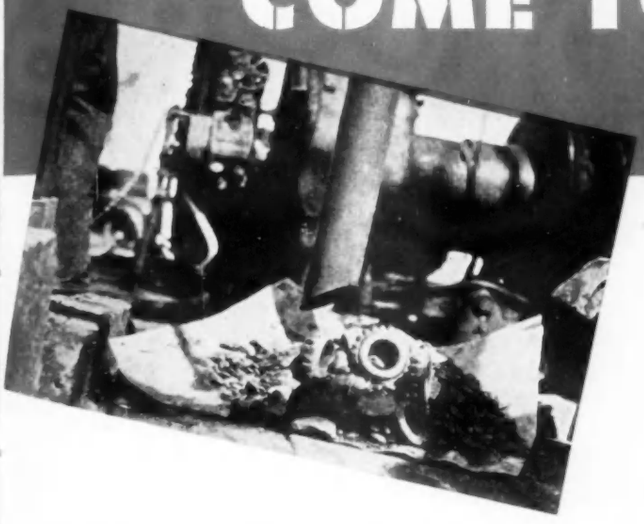
SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		OKLAHOMA—New Oil Fields—Cont'd.							
Marshall	Aylesworth	Phillips' Gipson 1, se se ne 10-6s-6e	4-17-45	3482	3300-3375	Bromide sd; Ord	F 147		12
Noble	Billings, W	Deep Rock's White 1, sw ne ne 19-23n-2w	12-29-45	4450	4434-4450	Wilcox sd; Ord	F 985; 2"	40	1
Noble	Polo, S	Magnolia's Wollard 1, sw sw sw 34-22n-2w	8- 2-45	4688	4621-4688	Bartlesville sd; Penn	F 275		1
Noble	Red Rock	Deep Rock's Arrendell 1, sw ne sw 12-23n-1e	11-20-45	4600	4590-4597		F 450	41	1
Okfuskee	Blakely, N	Wood Oil Co.'s Smith 1, se sw ne 23-12n-10e	9-23-45	2518	2488-2518	Booch sd; Penn	F 144	38	1
Okfuskee	Paden, S	J. E. Crosbie's Sykora 1, ne ne sw 20-12n-7e	4-10-45	4696	3846-3950	Cromwell sd; Penn	F 400	36	4
Oklahoma	Bethany	Phillips' & Kerlyn Oil's Classen 1, cnw se 11-12n-4w	1-16-45	7952	7152-7220	Bois d'Arc li; Sil	F 200	51	3
Oklahoma	Coffee Creek	Gulf's Beck 1, sw sw sw 15-14n-2w	2- 9-45	6167	5760-5804	Hunton li; Devo	F 86; 11 wtr	36	1
Oklahoma	Jones	Stanolind's Bednar 1, nw nw nw 23-13n-1e	8-15-45	5879	4637-4645	Cleveland sd; Penn	P 35; 35 wtr		4
Oklahoma	Lone Star	Ace Gutowsky's Crum 1, nw nw se 24-14n-3w	8-13-45	6945	5720-5731	Cleveland sd; Penn	P 75	40	1
Okmulgee	Mounds	Williams & Copeland's Irby 1, se sw nw 20-16n-12e	1-23-45	2539	2537-2539	Wilcox sd; Ord	P 60	36	5
Okmulgee	Nuyaka, S. W.	Monarch Royalty Corp.'s West 1, se sw ne 6-13n-11e	5- 1-45	3280	3250- 80	Wilcox sd; Ord	F 100	36	2
Osage	Black Dog, W	Wilcox Oil Co.'s Drummond 1, nw ne sw 18-26n-8e	10-16-45	2328	2318-2328	Prue sd; Penn	F 480	38	1
Osage	Black Dog, W	Wilcox Oil Co.'s Wister 1, sw se nw 15-22n-8e	6-15-45	2550	2531-2547	Burgess sd; Penn	F 160	38.5	4
Osage	Wildcat Hill	Ashland O. & R. Co.'s Osage 1, cne se 30-21n-11e	7-20-45	2448	2446-2448	Hominy sd; Ord	Sw 250	38	2
Pawnee		Westgate-Greenland's Ortin 1, nw nw se 33-22n-5e	5-20-45	3150	3108-3150	Bartlesville sd; Penn	P 25	36.9	1
Pawnee	Watchorn, N	Deep Rock's Donohoe 1, nw nw nw 27-23n-3e	7-12-45	3601	3580-3601	Bartlesville sd; Penn	P 41; 56 wtr	37	1
Pawnee	Watchorn, N.W.	Sunray's Gilbert 1, nw sw ne 30-23n-3e	7-24-45	2732	2726-2732		Sw 60		1
Payne	Council Creek	E. P. Halliburton's Drumm 1, nw se se 6-19n-4e	9-11-45	4249	3731-3738	Bartlesville sd; Penn	P 10	36	1
Payne	Stillwater, W	Hanlon-Buchanan's Heiring 1, se se se 18-19n-2e	2-12-45	4552	4545-4552	Misener sd; Miss	F 250		2
Payne	West Point, S	Northern Ordance's DeWitt 1, ne se sw 34-20n-4e	6- 2-54	3585	3569-3575	Burbank sd; Penn	P 35; 35 wtr	33	1
Pontotoc	Oakman	Senora O. & G. Co.'s Skirvin-Tyson 1, se ne ne 17-4n-6e	2-14-45	2712	2415-2478	Hunton li; Devo	F 240		11
Pontotoc	Whitney	Anderson-Prichard's Newburn 1, se ne sw 31-5n-4e	4-30-45	2025	2018-2025	sd; Penn	F 40		6
Pontotoc	Ada, E	Ashland O. & R. Co.'s Hales 1, ne ne nw 11-4n-7e	8-19-45	2062	2056-2062	Gilcrease sd; Penn	P 50		11
Pottawatomie		Stcut & Stuart's Bowles 1, nw ne ne 4-5n-3e	12-21-45	2892	2885-2892	Layton sd; Penn	P 30	38	1
Pottawatomie	Byars, N	Chas. Jenkins' Goodnight 1, se sw se 33-6n-3w	8-28-45	2869	2858-2869	Layton sd; Penn	P 25		5
Pottawatomie	Wanette, E	Kerlyn Oil Co.'s Bourassa 1, nw ne se 21-6n-3e	5-14-45	4397	2919-2922	Layton sd; Penn	P 182; 910 wtr	39.5	1
Seminole		J. E. Crosbie's Mathis 1, se nw sw 35-6n-5e	12-20-45	2229	2213-2229	Senora sd; Penn	F & Sw 280	41	1
Seminole	Sylvian, S. W.	Ashland O. & R. Co.'s Wallace 1, se ne 16-10n-7e	7-15-45	3665	3658-3665	Gilcrease sd; Penn	F 125	38	1
Seminole		Mealy-Wolfe Drlg. Co.'s Wallace 1, nw nw ne 7-8n-7e	11-13-45	3328	3300-3328	Cromwell sd; Penn	F 200		2
Seminole	Wofford, S	F. C. Hall's Payne 1, ne ne nw 20-6n-7e	7-10-45	4354	1900-1920	Senora sd; Penn	F 200	39	3
Stephens	Claud	Magnolia's Jones Hrs. 1, cnw se 21-1n-4w	2- 1-45	5590	5535-5550	sd; Penn	P 300	21	1
Tillman	Burt, S. W.	Gulf's Copeland 1, ne nw 31-1s-18w	1- 4-45	4670	4568-4584	Simpson sd; Ord	F 31	36	6
Tillman	Frederick, S	Texas Co.'s Smith 1, nw nw se 36-2s-18w	6- 2-45	5428	2990-3070	Canyon li; Penn	P 7; 27 wtr		2
		OKLAHOMA—New Oil Pays							
Caddo	Apache	C. C. Lynch's Peterson 1, ne ne nw 3-5n-12w	1-19-45	814	794- 814	sd; Penn	F 33	36	
Caddo	Cement	H. W. Snowden's McDonald 1, nw nw se 3-5n-9w	6- 6-45	4373	4162-4160	Middle Rowe sd; Penn	F 5000; 2½"		3
Cleveland	Moore	Wood Oil Co.'s Siler 1, sw se ne 36-10n-3w	6-29-45	8865	7835-7890	Bartlesville sd; Penn	F 511; ¼"	38	11
Garvin	Hoover, N. W.	Helmerich & Payne's Gaither 1, sw sw ne 14-1n-1w	2-20-45	2525	2154-2205	sd; Penn	F 675		27
Garvin	Pauls Valley, E	Ohio Oil Co.'s Mullinix, ne nw ne 11-3n-1e	5-23-45	3045	3030-3045	McLish sd; Ord	F 2400; ¼"		2
Kay	Dilworth	Dave Morgan Oil Co.'s Fender 1, cne ne 36-29n-1w	9- 9-45	3331	3251-3331	Simpson sd; Ord	F 236	38	
Lincoln	Davenport, W	L. B. Jackson et al's Mears 1, ne nw nw 8-14n-5e	8- 2-45	3635	2766-2793	Cleveland sd; Penn	F 100	44	
Lincoln	Wilcetta	C. L. McMahon et al's Vlasak 1, ne nw 2-12n-5e	10-10-45	4800	4440-4480	Simpson sd; Ord	F 405	39	
Payne	Ramsey	Mid-Continent's Columbia 3, nw ne sw 18-18n-2e	6- 5-45	4824	4756-4790	2nd Wilcox sd; Ord	F 530; 48/64"		1
Stephens	Marlow, W	Texas Co.'s Sears 1, sw ne ne 20-2n-8w	4-24-45	6762	6714-6762	L. Penn; sd; Penn	F 500; ¼"	46	7
		OKLAHOMA—Oil Field Extensions							
Garvin	Pauls Valley	Texas Co.'s Trahern 1, se nw nw 32-4n-1e, ½ mi n ext	2- 4-45	4002	3988-4011	sd; Penn	F 493; 4/64"		89
Garvin	Pauls Valley, E	Ohio Oil's Chisholm 1, sw nw nw 13-3n-1e, 1½ mi w ext	4-16-45	3855	3845-3855	Oil Creek sd; Ord	Sw 175; 15 wtr	38	84
Hughes	Horns Corner	Deep Rock's Hudson 1, ne sw sw 32-7n-10e, 1¼ mi sw ext	4-28-45	3840	3833-3840	U. Cromwell sd; Penn	F 360; ¼"	38	14
Kingfisher	Edmond, W	Anderson-Prichard's Stewart 1, cnw nw 24-15n-5w, 1 mi n ext	4-30-45	7287	7014-7026	Bois D'Arc li; Devo	F 917; 50 wtr		
Lincoln	Davenport, W	L. B. Jackson's Mears 1, ne nw nw 8-14n-5e, ½ mi sw ext	5-28-45	3526	3500-3526	Prue sd; Penn	P 100	41	8
Logan	Hull	R. E. Havenstrite 1, nw ne ne 14-18n-4w, 1½ mi s ext	2- 7-45	4225	4210-4225	Layton sd; Penn	F 151; 15 wtr		4
Logan	Lovell	Fox & Fox Co.'s Hudson 2, cnw nw 35-18n-4w	2-27-45	4916	4868-4916	Layton sd; Penn	F 150		13
McClain	Washington	Carter Oil Co.'s McBride 1, cse 9-7n-3w, ½ mi s ext	4-21-45	10647	10601-10647	Wilcox sd; Ord	F 2500; 5/64"	41	2
Oklahoma	Edmond, W	Phillips' Airport 1, cne ne 8-12n-4w, 1 mi s ext	8-21-45	7253	7220-7233	Hunton li; Devo	F 546; 11/64"		3
Oklahoma	Edmond, W	Apex Drlg. Co.'s McKee 1, nw sw 23-14n-4w	6-23-45	6935	6312-6327	Bartlesville sd; Penn	P 60		
Oklahoma	Edmond, W	Magnolia's Whetstone 1, cnw se 33-13n-4w, ¾ mi s ext	5- 7-45	7035	6990-7035	Hunton li; Devo	F 4480; ¼"		
Osage	Big Berd	Oliphant's Osage 2, sw sw sw 21-25n-3e, ½ mi w ext	12-26-45	2855	2851-2855	Layton sd; Penn	P 50	38	1
Osage	Hickory Crk, S.	Oliphant's Osage 1, ne ne nw 21-28n-11e, ½ mi se ext	6- 2-45	1085	1055-1085	Wayside sd; Penn	F 100	36	61
Osage	Manion, N	W. W. Henry's Osage 1-3, se sw nw 7-23n-9e	6- 6-45	2116	2110-2116	Hominy sd; Penn	F 100	38	57
Seminole	Cheyarla	Ilco Corp.'s Allred 1, nw ne nw 8-9n-7e, ½ mi sw ext	9-11-45	3588	3585-3788	Booch sd; Penn	F 960; 2 mln	38	
Seminole	Konawa	Ashland's Norvell 1, sw ne sw 9-6n-7e, ¾ mi n ext	7- 5-45	3682	3664-3682	Booch sd; Penn	F 200	36	85
		OKLAHOMA—New Distillate Fields							
Grady	Chitwood	Magnolia's Cunningham 1, se ne 33-5n-6w	4-27-45	10891	10879-10882	Bassel Penn sd; Penn	F 141; 2 mln		1
Oklahoma		Harper-Turner's Bailey 1, cse nw 28-14n-2w	9-18-45	5850	5847-5850	Bartlesville sd; Penn	F 5; 1½ mln		1
Stephens	Marlow, S	Gulf's Briscoe Est 1, cse nw 36-2n-8w	8-24-45	8164	7732-7774	Penn sd; Penn	F 3000; ¾"		1
		OKLAHOMA—New Gas Fields							
Cimarron		Stanolind's Schonwald 1, cne ne 21-3n-8ecm	12-28-45	5000	4802-4812	Penn sd; Penn	F 1½ mln		1
Hughes	Horns Corner, W	Deep Rock's Strickland 2, sw ne ne 19-7n-10e	8- 7-45	3957	3825-3837	Cromwell sd; Penn	F 5 mln		1
Hughes		T. J. Lynch's Poe 1, csw se 32-9n-11e, 5 mi se Wetumka	11-19-45	1682	1650-1682	Penn sd; Penn	F 4 mln		1
McIntosh	Cummings	Swick-Sherod-Apperson's Well 1, ne se sw 9-9n-14e	8-25-45	2723	2700-2723	Gilcrease sd; Penn	F 14 mln		1
Okfuskee	Greenleaf	Phillip's Overall 2, sw se nw 15-11n-9e	7-25-45	3375	3360-3370	Cromwell sd; Penn	F 15 mln		4
Okfuskee		Amerada's Barry 1, ne ne sw 23-10n-10e	9-20-45	3993	3157-3163	Cromwell sd; Penn	F 15 mlp		1
Okfuskee		Amerada's Canrad 1, se ne ne 16-10n-10e	8-22-45	4778	3291-3408	Cromwell sd; Penn	F 10 mln		1
Okfuskee		Deep Rock's Harjo 1, sw sw ne 23-12n-10e	10-30-45	2511	2481-2511	Booch sd; Penn	F 21 mln		1
Okfuskee		Hill & Hill's Dunson 1, se ne ne 13-10n-8e	11-29-45	3490	3204-3218	Gilcrease sd; Penn	F 9 mln		
Okfuskee	Pettinquah	Fred C. Summer's Aldridge 1, sw se ne 21-13n-7e	12- 6-45	2842	2776-2842	Prue sd; Penn	F 5 mln		1
Pittsburg	Ulan, E	Public Service Co.'s Travis 1, cnw ne 5-7n-14e	6- 2-45	1987	1867-1919	Booch sd; Penn	F 3 mln		1
Pittsburg	Ulan, E	Public Service Co. of Okla.'s Travis 1, nwc 5-7n-14e	8-27-45	2078	2072-2078	Penn sd; Penn	F 10 mln		1
Pottawatomie		Cities Service's Hoffman 1, se ne ne 34-6n-3e	6- 6-45	3646	3432-3470	Wanette sd; Penn	F 3.6 mln		1
Pottawatomie		Texas Co.'s Vestal 1, nw nw se 28-6n-2e	4-16-45	4403	2854-2878	Layton sd; Penn	F 20 mln		2
Seminole		W. J. Brown's Orwig 1, sw sw sw 34-8n-8e	10-12-45	1252	1132-1157	Calvin sd; Penn	F 2 mln		1
Seminole		Gillespie & Scn's Patton 1, se nw se 18-6n-8e	11-14-45	2885	2740-2755	Gilcrease sd; Penn	F 6 mln		1
Stephens	Cruce, N	Carter Oil Co.'s Frensley 1, ne ne 12-1n-6w	3- 3-45	6715	913- 925	Premian li; Perm	F 2.8 mln		1
Texas		Phillips Pet. Co.'s Fatkins 1, sw sw ne 32-1n-17ecm	11- 6-45	3110	2710-2970	Kerrington-Krider sd; Perm	F 13 mln		1
		OKLAHOMA—New Gas Pays							
Beckham	Erick	Skelly Oil Co.'s Baldwin 1, se ne ne 10-9n-25w	6-10-45	7559	6786-6810	Arkosic li; Penn	F 22 mln		1
Logan	Crescent	Magnolia's Stebaugh 2, csw sw 13-17n-4w	6-22-45	4923	4902-4935	Layton sd; Penn	F 17 mln		..
Oklahoma	Edmond, W	Sohio's Patton 1-E, csw sw 27-14n-4w	3- 7-45	6935	6412-6436	Prue sd; Penn	F 7 mln		..

When it comes to cleaning COME TO CAVINS



Cavins clean-out service features highly efficient, specialized hydrostatic tools for every type of well cleaning job. This service and equipment is recognized as the industry's finest for keeping production up and maintenance costs down. Results obtained by a Cavins clean-out job quickly repay, many times, the cost of the service.

The CAVINS HYDROSTATIC BAILER is the No. 1 tool for breaking hard-packed sand bridges, cleaning out bridged-over tubing and partially collapsed pipe, for open-hole clean-out jobs and cleaning around large "Fish."

The HYDROSTATIC FISHING TOOLS are unexcelled for removing rock bit cones, cutters, slips, cement retainers and miscellaneous junk which slows down drilling.

The CAVINS SCREEN AND PERFORATION WASHER overcomes the most stubborn conditions of packed sand, shale, paraffin, etc. Requires only two men to operate and can be run twenty minutes after reaching the well.

CAVINS SAND PUMP is designed especially for use where it is not desired to flush the well as with the surge of the Hydraulic Suction Bailer; where low fluid levels prevail and where the recoveries are not packed hard or otherwise difficult to remove. Sand Pumps are available in both cable type and rod type.

Ask about our *NEW* HYDROSTATIC FISHING TOOL run as part of the drilling string. It operates as a fishing tool to recover junk or lost particles thru hydrostatic force. It can be rotated and used in conjunction with mill, basket or any special tool for picking up lost particles. Fishing operations can continue without coming out of hole with drill pipe.

CAVINS

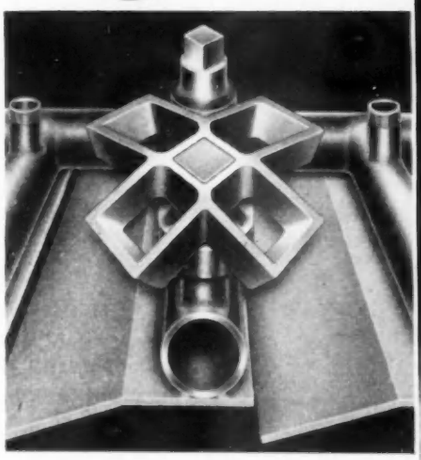
THE CAVINS CORPORATION

HOUSTON • KILGORE • CORPUS CHRISTI • ODESSA • LAKE CHARLES
ELLINWOOD • SEMINOLE, OKLA. • BATON ROUGE, LA.

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

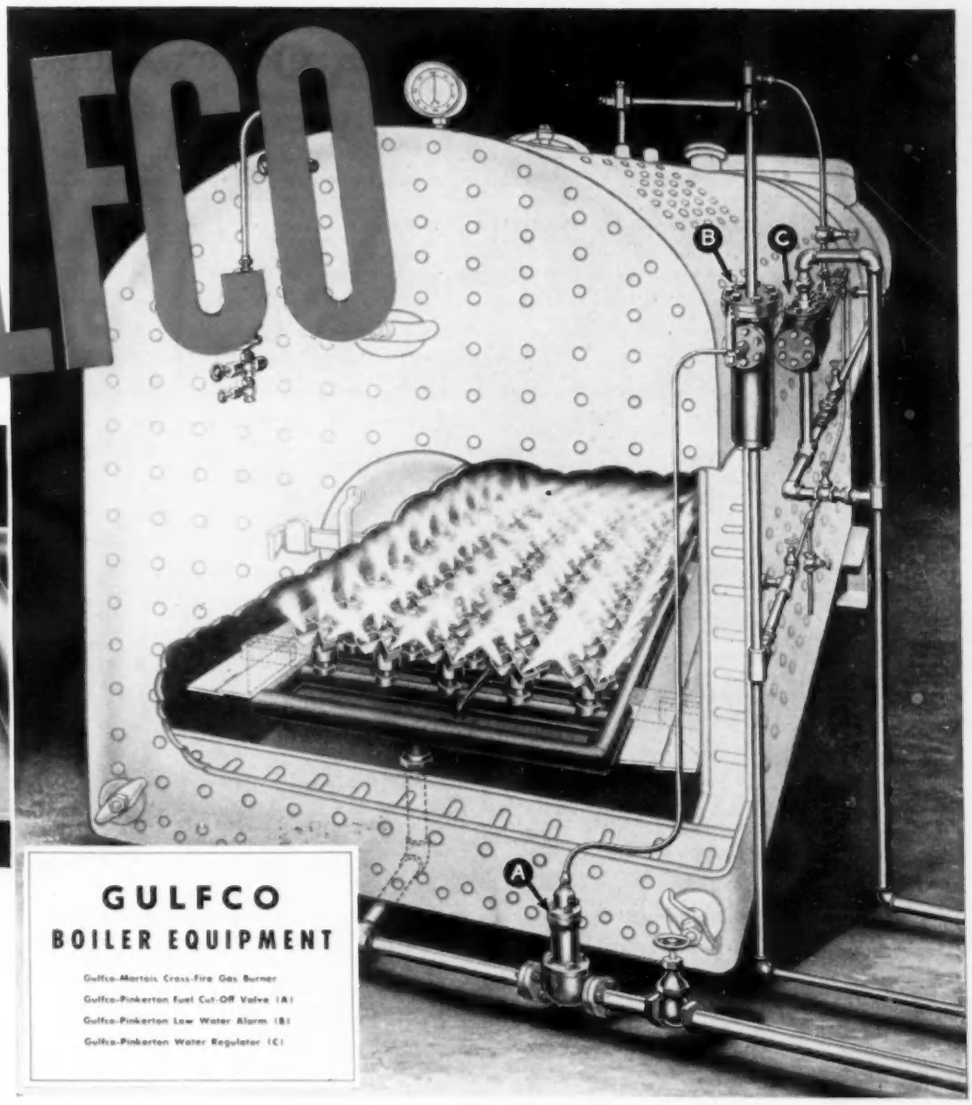
County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		OKLAHOMA—Gas Field Extensions							
Okmulgee	Mounds	Williams-Copeland's Irby 1, ne sw nw 20-16n-12e, 1 mi sw ext.	5- 2-45	21745	2137-2175	Dutcher sd; Penn	F 4½ mln		5
Texas	Hugoton	Phillips' Mina 1, csl n½ 36-1n-13ecm, 4 mi s ext	1-10-45	2970	2856-2970	Krider-Winfield sd; Perm	F 22 mln		1
		EAST TEXAS BORDER—New Oil Field							
Marion	Jefferson	Jefferson O. & G. Co.'s J. M. DeWare 1, 130 fr sl 140-ac tr upper Reuben Bennington sur, 1½ mi n Jefferson.	9-23-45	7500	6618-6660	Travis Peak sd; L Cre	F 225; ⅛"	41.3	
		EAST TEXAS BORDER—New Distillate Fields							
Harrison	Whelan	Whelan's Wm. Peal 1, 2350 fr wl 990 fr sl Betty Humphries sur, 330 fr m/ely wl 990 fr sl 126.5-ac tr.	6-27-45	7862	6760-6794	Rodessa "Dees" sd; L Cre	F 520; 52 mln	58.9	
Harrison		Ark-La Gas' Baker 1, 660 n&w sec L.G.A. Steele sur	6-15-45	6783	6215-6292	Travis Peak sd; L Cre	F 92; 116 wtr	55	
Harrison		Rogers Lacy's J. M. Tutle 1, 1320 fr wl 2600 fr nl 4200-ac lse, J. M. Clifton sur, Harleton area.	9- 2-45	7027	6471-6536	Pettit li; L Cre	F 2 mln; ¾"	dist.	
		EAST TEXAS BORDER—New Gas Fields							
Harrison		Rogers Lacy's E. L. Poteet 1, 330 n&e of m/s/swc 85-ac tr, Betty Humphries sur, Harleton area.	9- 7-45	7500	6795-6843	Rodessa sd; L Cre	F 57 mln		
Harrison	Whelan	Rogers Lacy's B. C. Quinn 1, Vashti Gibbs sur, 70-ac tr, 1 mi s Whelan Bros., Rodessa gas-distillate disc.	9-15-45	6821	6731-6764	Yound sd; L Cre	F 60 mln		
Marion		Stewart Co.'s Brown 1, 100-ac tr, Jos. Watkins sur	11- 1-45	7200	6138-6210	Dees sd; L Cre	F 18½ mln		
Panola		W. H. Mitchell's Frost Lbr. Co. 1, C. F. Hull sur	11- 9-45	9030	5995-6020	L. Pettit li; L Cre	F 82 mln		
Panola		J. I. Roberts-C. H. Murphy's E. Johnson 1, Fain sur	10- 6-45	5300	5832-6184	L. Pettit sd; L Cre	F 13 mln		
Panola		Skelly's Lewis Werner Sawmill Co. 2, H. P. Anderson sur	9-28-45	6404	5760-6060	Pettit sd; L Cre	F 17 mln		
		EAST TEXAS—New Oil Fields							
Henderson	Larue	Lone Star Prod. Co.'s R. H. Lee 1, 330 snl 660 sel B. C. Walters sur.	1- 4-45	9242	8198-8208	Bacon U Rodessa; L Cre	F 262; 2/2"	47.8	1
Van Zandt	Myrtle Springs	Humble's B. W. Bruce 1, 660 fr sw 660 fr se lines 120.6-ac tr; 3400 fr ne 3800 fr se of J. Saligna sur.	1- 3-45	8904	8524-8544	Travis Peak sd; L Cre	P 87	37.4	2
		EAST TEXAS—New Oil Pays							
Cherokee	Lone Star	G. L. Walker-Wm. H. Foster's P. I. Bosling-Pure 1, 1363 ewl 660 snl of 260-ac tr, W. H. Walters sur.	10-26-45	8370	3348-3364	Navarro Chalk; U Cre	P&F 170	41	1
Wood	Quitman	Shell's C. C. Harris-Atlatl 1, 760 nsl 2115 ewl E. Goodsir sur.	11-15-45	6700	4126-4140	Sub-Clarksville sd; U Cre	P 62	23	1
		EAST TEXAS—New Distillate Field							
Freestone	Fairfield	Texas Co.'s W. A. L. McKnight 1, 660 out nwc 149-ac lse; 5210 snl 660 ewl I. H. Reed sur.	9-15-45	7589	7422-7428	Travis Peak sd; L Cre	F 49; 4/64"	63	1
		EAST TEXAS—New Distillate Pays							
Rusk	Henderson	Danciger's Dorsey 1, 2269 ewl 990 nsl, G. Fletcher sur	9-15-45	7589	7422-7428	Travis Peak sd; L Cre	F 49; 4/64"	63	1
Wood	Coke	Amerada's E. L. Faulk 3, 467 out nwc 96.56-ac lse, or 1770 ewl 467 snl Jas. Knight sur.	5-19-45	8375	8080-8130	Young L Rodessa li; L Cre	F 1824; 32 mln	70	1
Wood	Manziel	Magnolia's Malone-Taylor 1, sec 30-ac lse, J. Polk sur	10-25-45	8802	8316-8364	Gloyd li; L Cre	F 45; 2.3 mln		1
		EAST TEXAS—New Gas Fields							
Freestone	Teague	Texas Co.'s Nancy Ham 1, 467 ewl 500 swl 81.2-ac, or 535 se 2025 fr m/e/sw 1 R. Lawson sur.	9-24-45	8541	7970-8018	Pettit li; L Cre	F 65; 13 mln	49.2	1
Rusk		H. C. Owen's J. H. Rousseau 1, 330 out nec 65-ac lse, or 330 snl 1510 ewl, Robt. Gilkerson sur.	2- 7-45	7512	7382-7389	Travis Peak sd; L Cre	F 75; 3 mln		1
		EAST TEXAS—New Gas Pay							
Freestone	Fairfield	Texas Co.'s W. N. Sneed 1, 1460 snl 600 wel 320-ac tr and Ben Green sur.	7- 3-45	8292	4198-4207	Woodbine sd; U Cre	F 54; 27 mln	54	1
		UPPER TEXAS COAST—New Oil Fields							
Austin	New Ulm	Sinclair's W. A. Schweka A-1, 800 fr nwl 787 fr sel 148.2-ac lse, Jas. Tylee sur.	9- 9-45	10013	9151-9165	Wilcox sd; Eoc	F 117; ¾"	34.6	1
Brazoria	Blue Lake	Glenn H. McCarthy's I. D. Wilson 1, 330 fr s&el 120-ac lse, 330 n of nl, Wm. Roberts sur	2- 9-45	10808	8702-8714	Frio sd; Olig	F 60; 10/64" w	34.8	7
Brazoria	Stratton Ridge	E. Cockrell's Seaburn Est. Hrs. 3, 1200 fr nl 1200 fr nly/wl 2757.22-ac lse, Jared E. Groce 5 lge gr.	10-30-45	3970	3955-3965	sd; Mio	F 231; ¾"	25.4	1
Chambers	Cedar Bayou	Butcher-Arthur's 1st Natl. Bank of Goose Creek 1, 330 fr nl 330-ac lse, 330 w of road e of well.	8-26-45	7517	7181-7183	Frio sd; Olig	F 259; 2/2"	35.5	2
Colorado	Columbus	Cities Service's J. Schobal 1, 330 fr wl 4328 fr nl 4278 fr el 1194-ac lse, Jas. Tumlinson sur.	9- 7-45	9752	7820-7860	Wilcox sd; Eoc	F 124; ¾"	36.5	2
Colorado	Hamel	Skelly-Warren Pet's R. Hamel 1, 466 fr n&wl 203-ac lse, R. Dowdy sur.	8-24-45	9766	9032-9075	Wilcox sd; Eoc	F 217; 4/64"	46.3	1
Hardin	Village Mills	Houston Oil-American Republic's Fee-Hardin csl 2, 6500 fr nl 660 fr el 956.7-ac lse.	3-18-45	9559	5798-5820	Cockfield-Yegua sd; Eoc	F 297; 4/64"	37.1	1
Hardin	Olive	Pan American's Olive Sternenberg Lbr. Co. 1, 1882 fr wl 50 fr nl P. S. Watts sur, c 40-ac unit of 4000-ac lse.	11- 6-45	10049	10012-10049	Wilcox sd; Eoc	F 596; 4/64"	44.5	1
Harris	Addicks	Texas Co.'s Hopkins 1, 1750 fr wl 1980 fr sl R. H. Davis sur A-225 and 269.37-ac lse, 996.68 fr el lse.	1- 1-45	8014	7703-7708	Cockfield sd; Eoc	F 4; ¾"	45	1
Harris	Hockley	Magnolia's Warren 2, 3055 snl 1086 ewl, J. Hudson sur	6-29-45	6366	6356-6366	Yegua-Caprock	F 234; 4/64"	32.4	1
Liberty	Grogan	Shell's Grogan Mfg. 1, 1011 s 2500 w of swc Snell's J. Cherry lse, 380 n of nl of J. G. Puterbaugh sur.	2-12-45	12250	5782-5784	Cockfield sd; Eoc	F 294; ¾"	40.3	1
Liberty		McCarthy-Sun's A. G. Blanke 1-A, 1150 fr nl 400 fr el 115.5-ac lse, 2500 n of sl Levi Barrow sur.	8- 7-45	8550	8497-8505	Frio sd; Olig	F 17; 4/64"	44.6	1
Montgomery	Willis	K. B. Knox Drlg. Co.'s J. W. Woods 1, 601 snl 830 wel 100-ac lse, Wm. Weir sur.	9-15-45	3762	3755-3762	Yegua sd; Eoc	F 12; ¾"	27	1
San Jacinto	Cold Springs	Navarro Oil's Foster Lbr. Co. 1, 1170 n of nl Amerada's 40-ac J. J. West lse, 933 sw of swl of Polk Co. Sch. Ld. sur, on 1006-ac lse, Geo. Taylor sur.	2-24-45	7960	7883-7915	Wilcox sd; Eoc	F 74; 4/64"	38.5	2
San Jacinto		Butcher-Arthur's N. R. Dodson 1, 750 n of sly/sl W. M. Logan sur, sw of nel of sur, s Cold Springs.	10-12-45	6220	4375-4502	Cockfield sd; Eoc	F 170; 2/2"	43	1
Wharton	Hillje, S	S. G. Harrison's T. N. Mauritz 1, 467 fr n&wl m&c sur sect 11.	3-23-45	7510	5225-5232	Marginulina sd; Olig	F 2; 4/64"	41.8	1
		UPPER TEXAS COAST—New Oil Pay							
Brazoria	Blue Lake	G. H. McCarthy's T. J. McMillan Est. 1, 660 n of sl of 111-ac lse, 1000 se of s end Little Hog Lake.	9- 2-45	9044	8996-9010	Frio sd; Olig	F 238; 4/64"	30.4	1
Brazoria	Danbury	Humble's F. Schmidt 1, 1550 fr nwl/l 660 fr nely/l 150-ac lse and J. H. Brunner sur.	1- 6-45	9284	7542-7556	Frio sd; Olig	F 312; ¾"	33.2	1
Brazoria	Old Ocean	Magnolia-Abercrombie's B. R. L. D. 1-C, start sc D. McCormick sur, go ne alg sel sur 4436 th 2488 se at ra.	1-30-45	10943	10800-10820	Frio sd; Olig	F 292; ¾"	48.2	1
Fort Bend	Big Creek	Stanolind's Geo. Lingnau 1, 330 fr sw&nwl 98-ac lse in lot 6 BBB&C sur.	1-10-45	6465	6272-6465	Frio sd; Olig	F 235; ⅛"	33.4	1
Fort Bend	Nash Dome	Danciger's Theo. Neier 1, 330 fr el 1000 fr sl 207.34-ac lse, H. N. Cleveland sur.	10-24-45	5893	5861-5893	U Frio sd; Olig	F 269; 2/2"	30.2	1
Galveston	Hitchcock	Stewart's Fee 16, 660 n&e of well 14, 1320 n ne at ra fr State Highway 6, 990 nw at ra fr Texas City Term. R.R.	12-12-45	6897	6521-6529	Mio sd; Mio	F 162; ⅛"	33.7	1
Hardin	Saratoga	D. D. Feldman's S. F. Bashara 1, 1250 fr wl 950 fr sl 100-ac lse, J. B. Reaves sur.	10-13-45	6972	6550-6570	Yegua sd; Eoc	F 395; ¾"	34	1
Hardin	Silsbee	Amer Republics-Houston Oil's Brooks-Fee 33, 3223 ewl 200 nsl G. W. Brooks lge, 1867 w No. 10 well, 7740-ac lse.	6-20-45	8155	7500-7520	Yegua sd; Eoc	F 162; 2/2"	41.2	2

GULFCO



Above: Detailed drawing showing construction of Gulfco-Martois Cross-Fire Burner.

Right: Cutaway drawing showing how Gulfco-Martois Cross-Fire Burner Heads are manifolded in burner.



GULFCO
BOILER EQUIPMENT

Gulfco-Martois Cross-Fire Gas Burner
Gulfco-Pinkerton Fuel Cut-Off Valve (A)
Gulfco-Pinkerton Low Water Alarm (B)
Gulfco-Pinkerton Water Regulator (C)

FOR BOILER EFFICIENCY

GULFCO-MARTOIS LOW PRESSURE CROSS-FIRE BURNER

gives the same efficiency from low pressures as from high pressures.

This is due to the multi-jet system which maintains a CROSS FIRE above the Mixers (or Burner Heads) from accurately proportioned air and gas. The combustion is so complete that 100% hp. rating can be obtained from 8 oz. to 2 lbs. pressure of gas without artifical draft. Tests show that this burner will develop 300% over manufacturer's rated hp. with 5 lbs. pressure and forced draft on 1000 Btu gas.

Burners will not vibrate or create undue noise at any time. Can be left complete in boilers when moving. Also suitable for stationary boilers. Constructed so that no further adjustment is necessary after the original installation. *Proved by leading majors and independents in every oil country to give better performance and save money by saving gas.*

Send for detailed information on Gulfco boiler equipment that is receiving so much favorable commendation from leading oil companies in America and abroad.

FOR BOILER SAFETY

GULFCO-PINKERTON HI-PRESSURE BOILER FEED WATER REGULATOR *(See C in above drawing)*

. . . automatically controls the supply of water to the boiler and holds the water level at any desired point. Operates on a positive system based on expansion and contraction due to temperature change. Stainless steel and non-corrosive metals are used to give long-lasting qualities.

GULFCO-PINKERTON LOW WATER ALARM *(See B in above drawing)*

. . . automatically blows a shrill whistle when the water level falls to 3" above the crown sheet, warning the fireman. If the whistle is ignored, an additional slight drop in the water level causes the GULFCO-PINKERTON FUEL CUT-OFF VALVE (See A in the above drawing) to close, automatically cutting off the fire before damage can be done. Non-corrosive metals are used on any parts of the above units which are contacted by steam and water.

SEE GULFCO 20 PAGE SECTION COMPOSITE CATALOG

GULFCO FORGED STEEL FOR SAFETY

GULF COAST MACHINE & SUPPLY COMPANY

GULFCO TRADE MARK PRODUCTS

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Cable Address: "OILIND NEW YORK"

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		UPPER TEXAS COAST—New Oil Pays—*Continued*							
Hardin	Silsbee	Amer Republics-Houston Oil's Fee 10, 5089.9 ewl 250 nsl G. W. Brooks sur, 7740-ac lse, 933 e of No. 6 well.	1- 4-45	8905	7432-7460	Yegua sd; Eocs	F 468; ¾"	43.8	3
Hardin	Sour Lake	Earl C. Hankamer's Bass 1, 125 fr wl 155 fr nl 10,275-ac unit, S. Jackson sur.	3-11-45	3648	3494-3509	sd; Olig	F 207; 2/4"	39.4	2
Hardin	Sour Lake, N. W. Flk	Texas Co.'s R. H. Kirby 1, 1320 fr el 330 fr sl 170-ac lse, S. Jackson sur.	1-14-45	4805	3270-3278	sd; Mio	P 35; 3% wtr	17.9	2
Liberty	Kirby	General Crude's C. F. Garbe 2, 722 fr el 660 fr wl 330 fr sl 44-ac tr, M. Duncan sur.	3-25-45	3485	3478-3485	sd; Mio	F 59; 1/8"	22.1	1
Liberty	Liberty, S	F. J. Bashara's Pickett 1, 50 fr n&wl lse, M. G. White sur	9-26-45	3862	3600-3618	Fri sd; Olig	F 87; 2/32"	41	1
Matagorda	Bay City, E	Stanolind's E. L. Barth 1, 1000 wel 2250 snl I&GN sur	7-30-45	10493	10424-10430	L. Fri sd; Olig	F 40; 2/4"	30.5	1
Polk	Livingston	Shell's Dick & Failing 6, 467 fr ne&sel 160.78-ac lse, A. Viesca 7 lge gr A-77.	1-31-45	7036	6566-6570	Wilcox sd; Eoc	F 600; ¼"	36	1
Wharton	Daboval	Amerada's J. M. Smith 1, 660 fr s&el 80-ac lse, sw¼ sect 59 ETRR sur.	3-25-45	7317	6300-6309	Mid Frio sd; Olig	F 65; 1/8"	42.8	1
Wharton	Lane City	H. W. Snowden's H. C. Cockburn 2, 200 fr nwl 316.7 fr swl sect 12, S. Castleman sur, blk 105, 537-ac lse.	10-26-45	5452	5430-5450	Frio sd; Olig	F 85; 4/16"	24.9	1
		UPPER TEXAS COAST—Oil Field Extensions							
Brazoria	Blue Lake	G. H. McCarthy's W. W. Smith 31, 330 fr n&el 64.34-ac lse, J. Bradley sur, nw ext.	5-10-45	10220	8650-8665	Frio sd; Olig	F 651; ¾"	36.1	1
Brazoria	Old Ocean	Magnolia-Abercrombie's P. Studer 1, 1196 n 470 w of sec 102-ac lse, and blk 1, S. F. Austin 7½ lge, ¾ mi e ext.	10-19-45	10957	10830-10850	Frio sd; Olig	F 295; ¾"	46.5	1
Harris	Satsuma	Tide Water's R. G. Cobb 1, 467 fr el 1400 fr al 640-ac lse, Washington Co. RR sur, 2000 ft w ext.	2-13-45	7805	6822-6826	Yegua sd; Eoc	F 339; ¾"	40	1
Liberty	Esperson, S	General Crude's Sun Oil Co. (Esperson B) 17-B (1-C) 800 ewl 500 fr sly/sl 103-ac lse, F. M. Gardner sur, ½ mi w est.	2-23-45	6174	5940-5985	Yegua sd; Eoc	F 135; 1/8"	37.1	1
Wharton	Boling	Union Oil's Hawes 1, 2350 nly alg ely/1 97-ac lse, wly at ra, on n flk, 3000 ely at ra fr wly/l John Huff sur.	8-20-45	4693	4550-4575	Marginulina sd; Olig	F 155; 1/8"	25.9	1
Wharton	Hillje, S	S. G. Harrison's Willis, Wallace, Hancock 1, 466 fr s&wl se¼ sw¼ L. L. Miller sur, sect 14, 1700 ft ne ext.	4-28-45	6534	5239-5247	Marginulina sd; Olig	F 103; 2/4"	28.5	2
		UPPER TEXAS COAST—New Distillate Fields							
Chambers	Elm Bayou	Texas' J. Connerly 1-A, 660 fr s&wl se¼ H&TB 92, 320-ac lse..	4- 6-45	8609	8394-8415	U. Frio sd; Olig	F 30; 2 mln; 4/8"	52.9	1
Colorado	Altair	Superior's M. Tait 2-A, 330 fr se se&swl 500-ac lse, 1600 fr nwl 1000 fr swl Pat O'Daugherty sur.	7- 7-45	9286	8256-8315	Wilcox sd; Eoc	F 432; ¼"	57	3
Colorado	Inglehart	Shell's Kyle Est. 1, 642 fr nwl 660 fr swl 76.91-ac lse, 1200 fr sel 1500 fr nel J. Grant sur.	5-10-45	11944	8780-8800	Wilcox sd; Eoc	F 62; ¼"	50	1
Colorado	Rock Island	Sinclair's F. Fehrenkamp 1, 5050 snl 1050 wel SA&MG 23	5- 1-45	11000	9680-9695	Wilcox sd; Eoc	F 27; 1/8"	50	1
Harris	Cypress	L. M. Josey's Josey 1-A, 1250 n 330 w of sec sect 17 H&TC sur, 640-ac lse, 11½ mi n Joyce Richardson fld.	7- 4-45	7572	6955-6965	Yegua sd; Olig	F 17 per mln; 4/64"	cond	1
Jefferson	Gilbert Ranch	Sun's Gilbert 1, 6682 nsl 2316 ewl J. Ricord sur 1432	6- -45	8996	8675-8695	Frio sd; Olig	F cond	....	1
Matagorda	Bay City, E	Skelly-Stanolind-Tide Water's G. P. Hardy & Horn 1, 1140 fr wl 630 fr sl 450 fr nl 131-ac lse in blk 3 I&GN sur, 3 and Henry Goelin sur 2.	3-19-45	10844	10095-10123	L. Frio sd; Olig	F 48; 5 mln 4/64"	41.5	1
Newton	Sabine Tram	Humble's Hankamer 1, 660 n of sec sect 23 alg wl J. B. Smyth sur 330 e at ra on 340-ac tr out 42, 210-ac lse.	11- 8-45	9009	7952-7974	Cockfield sd; Eoc	F 80; 11/64"	62	1
Tyler	Hyatt, S	Atlantic's Houston-American 1, 660 fr wl 550 fr nl 471.52-ac lse and sect 3 BBB&C sur.	2-23-45	9015	8374-9392	Wilcox sd; Eoc	F 400; ¼"	54.9	1
		UPPER TEXAS COAST—New Distillate Pay							
Montgomery	Pinehurst	Pan American's L. E. Posey 1, 467 fr nel 541 fr swl 330 fr sel 40-ac unit in nwe 154-ac lse, J. B. Richards sur.	5- 5-45	11820	11050-11095 9564-9622	Wilcox sd; Eoc	F 288; ¼" F 75; ¼"	53.2 60.2	1
		UPPER TEXAS COAST—Distillate Field Extensions							
Chambers	White's Lake	Standard of Tex.'s F. M. White 2-I, 2500 fr el 853 fr sl Solomon Brill sur, 742-ac lse, ½ mo ne ext.	4-13-45	9025	8886-8892	.....	F 4 mln; ¼"	....	1
Colorado	Chesterville	Stanolind's E. A. Wiese 1, 1320 fr nel 1320 fr sel 400-ac lse, GH&H sur, ¾ mi s se ext.	6-20-45	9680	6055-6070	Yegua sd; Olig	F 26; 2/32"	51.5	1
Colorado	Frelsberg	Sinclair's T. Gordon 1, 660 fr n&wl P. Piper, sur, 100-ac tr, 4375 ft s sw ext.	4-25-45	11727	8475-8495 8860-8930	Wilcox sd; Eoc	F 41; 4/16" F 119; 4/16;	73 59.3	1
Montgomery	Willis	Moran Corp.'s R. G. McIntyre 1, 70-ac lse, Jos Lindley sur	12-13-45	4009	3801-3823	Cockfield sd; Eoc	F 5; 1 mln; 1/4"	50.1	....
		UPPER TEXAS COAST—New Gas Fields							
Colorado	Orange Hill, W	Pan American's R. L. Williams 1, 1787 fr nwl 1787 fr nel sect sect 663 and CTRR sur.	1-28-45	9250	8368-8390	Wilcox sd; Eoc	F 3.1 mln	cond	1
Matagorda	Markham, W	Atlantic's Denman-Kountze 3-C, 880 fr wl 660 fr nl lot 12, H. Parker sur, 150-ac lse.	1- 8-45	5311	4865-4878	sd; Mio	F 4; 1 mln; 3/4"	cond	1
Wharton	Crescent	Texowell Serv & Mach Co.'s Hamberger 1-A, 660 fr s&wl sect 65 WCRR sur, 580-ac lse.	7-10-45	4511	4450-4460	Frio sd; Olig	F 0.75 mln; 1/8"	c	1
Wharton	Egypt	Hudgins-Ferguson-Hutchins' Duncan 1, 5150 fr m/sly/sl 1800 fr wly/el A. Edgar sur, 3000-ac lse.	5- -45	4012	2821-2828	Oakville sd; Mio	F gas; 3/8"	....	2
Wharton	Matzke	Texas Co.'s H. R. Matzke 1, start intersect T&NO RR with wl sect 26 I&GN sur A-244 go 3150 ne alg s row of RR th 330 sely to lcn.	1-10-45	6345	5779-5784	Frio sd; Olig	F 48.5 mln;	....	1
Wharton	Menefee	Salt Dome's J. Vitera 1, 1179 snl 1320 ewl H. Mills sur	12-10-45	5591	5240-5244	Frio sd; Olig	F gas	....	1
		LOWER TEXAS COAST—New Oil Fields							
Bee	Theis	T. Graham's Theis 1, 467 fr nw&nel 500-ac, R. S. Barnes sur	9-17-45	3571	3571-3582	Hockley sd; Eoc	F 165; 4/16"	....	3
Bee	Tulsita-Wilcox,	F. W. Shield's J. L. Courtney 1, 786.5 sw of nel of Hwy 16, 1600 n sl of 400-ac lse in Tulsita twnsite.	2-20-45	7504	7030-7059	Wilcox sd; Eoc	F 110; 1/8"	37.8	2
Brooks	*Mariposa*	Humble's D. Sullivan Acct 1-1, 3000 fr el 660 fr nl, M. D. Floyds sur 152, 1043.55-ac lse.	3- 8-45	8545	8535-8545	Vicksburg sd; Olig	F 293; 1/8"	40.7	2
Calhoun	Sheriff	Quintana's W. A. Shofner Est 1, 1875 fr nwl 330 fr swl 730-ac lse, B. Rodriguez lge.	11-14-45	8613	5710-5727	Frio sd; Olig	F 74; 3/8"	37.3	1
Fayette	Arnim	Continental's E. A. Arnim 1, 330 fr s&el 30-ac tr No. 5 on 372.16-ac lse, J. D. Menefee ½ lge.	3- 1-45	5405	2040-2060	Wilcox sd; Eoc	P 80; wtr	20	4
Goliad	Goliad, W	Sun's R. A. Thompson 1, 467 fr wl 1537-ac lse, 12,346 fr swc 3800 fr nwc lse, I. Guajardo sur.	2-25-45	11192	11182-11192	Wilcox sd; Eoc	F 314; open	44.1	2
Goliad	Waitschies	Amerada's A. Waitschies 1, 560 fr sel 2260 fr nel 188.97-ac tr, E. J. Armstrong sur.	10-27-44	13266	5920-5935	Vicksburg sd; Olig	F 22; ¾"	40.3	1
Jackson	Moody Ranch	Crown Central's W. L. Moody 1, N. McFarland sur	5- 8-45	9284	8822-8840	L. Frio sd; Olig	F 77; 4/16"	46.3	2
Jim Wells	Ramon	Bridwell Oil Co.'s R. Garcia 1, 330 fr nl 4200 fr wl 400-ac R. Garcia lse, La Trinidad gr.	3-20-45	4440	4376-4386	Frio sd; Olig	F 156; 3/8"	36	2
Karnes	Hysaw	Seaboard's E. N. Hysaw 1-A, 2350 nw alg nel 1600 sw at ra fr e cor 1069.11-ac lse, Don Erasmo Seguin sur.	9- 6-45	3983	3972-3976	Carrizo-Wilcox sd; Eoc	F 1005; 1/8"	26.2	4
Kleberg	Borregas	Humble's King Ranch-Borregas 1, 39,410 snl 34,295 wel Santa Gertrudis gr 40,591-ac lse.	12-13-45	8549	6889-6896	Frio sd; Olig	F 40; 1/8"	38	1
Kleberg	Monte Negra	Humble's King Ranch-Monte Negra 1, 21,120 at ra fr nl, 18,000 fr el Santa Gertrudis gr, 30-439-ac lse	12-10-45	7763	7054-7080	Frio sd; Olig	F 168; 1/8"	38	1
Kleberg	Ricardo	Tide Water's E. W. Houre 1, 660 fr e&sl 160-ac lse and blk 36, Kleberg Town & Improvement subdvn.	1-24-45	8650	7243-7268	Frio sd; Olig	F 208; 1/8"	37	4
Live Oak	Albert, W	Continental's A. West 2-A, 330 fr ne&sel sect 55 Kittie blk, G. W. West sbdn, M. Cronican sur, 5474-ac lse.	7- 6-45	7387	6720-6726	Wilcox sd; Eoc	F 103; 2/4"	34	1
Live Oak	Hinnant	Wright & Christie's M. A. Hinnant 1, 660 fr nw&swl 80-ac lse and Ed Quinn sur.	7-11-45	5780	5751-5783	Cockfield-Yegua sd; Eoc	F 78; 2/4"	41.6	1

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SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		LOWER TEXAS COAST—New Oil Fields—Cont'd							
San Patricio	Maedgen	H. H. Howell's C. A. Maedgen 1, 467 fr nw&nel of 204-ac lse, Mathis Reh., subdvn blk 4.	2-28-45	5230	4160-4196	Frio sd; Olig	F 26; 1/8"	36.5	1
San Patricio	Willmann	Bridwell Oil Co.'s B. C. Willman 1, 330 fr sel 330 fr swl 148.6-ac lse, Delgado Gr.	5- 7-45	4563	4553-4563	Frio sd; Olig	F 132; 1/2"	22.5	8
Willacy	Raymondville	Texas Co.'s Yturria 5, 660 fr sl sh 3 15,900 fr el 10,913.3-ac lse, S. J. Caryictos gr.	3- 6-45	6985	6346-6349	Frio sd; Olig	F 91; 1/8"	42.9	1
		LOWER TEXAS COAST—New Oil Pays							
Bee	Burnell-Wilcox	Blanco-Buchanan's C. A. Henderson 1, 330 fr sly nw&swl 126-ac lse, R. C. Ballard sur.	10- 3-45	3518	3515-3517	Pettus sd; Eoc	F 35; 1/4"		1
Brooks	Mariposa	Humble's D. J. Sullivan 2-C, 1980 nsl 4320 w of m/sly/el TMRR sur 151 and 10,000-ac lse.	12-12-45	9105	9083-9105	Vicksburg sd; Olig	F 128; 1/8"	38.1	1
Jim Wells	Magnolia City, N.	E. M. Jones J. E. Bennett 5, 467 fr wl of tr 2, 509-ac lse, Roberts & White subdvn.	5-30-45	5700	5492-5500	Presnall sd; Olig	F 263; 11/64"	37.5	1
Willacy	Willamar	Pan American's G. C. Kent 3, 467 fr el 1148 fr nl 494-ac lse, 1430 ne well 2, San Juan de Carricitos gr.	12-29-45	7990	5286-5294	sd; Eoc	F 79; 1/8"	35	
		LOWER TEXAS COAST—Oil Field Extension							
Brooks	Kelsey	Texas Co.'s McGill Bros. 1, 466 fr w&sl 7110-ac lse J. A. & A. M. Garcia sur, 13 mi sw Encino.	2-22-45	6795	6114-6120	Frio sd; Eoc	F 276; 1/2"	40.1	1
		LOWER TEXAS COAST—New Distillate Fields							
Dewitt	Yoakum	Pure's E. Rice 1, 466 fr s&el 145-ac lse, J. May sur	6-25-45	9185	8160-8190	Wilcox sd; Eoc	F 26; 1/8"	52.2	1
Goliad	Berclair	Magnolia's R. F. Irby 1, 660 fr se, sw l 2471-ac lse, J. Callahan sur	11-27-45	11726	9900-9910	Wilcox sd; Eoc	F 110; 11/64"	Cond	1
Karnes	Choate	Phillips' W. P. Belknap 1, 3000 fr nel 400-ac lse and C. Haynes sur, nw 400-ac of 1199-ac W. P. Belknap Jr. ld.	2-20-45	8033	7031-7035	Wilcox sd; Eoc	F 110; 1/2"	59	1
Karnes	Coy City	Seaboard's S. Treadwell 1, 1980 fr nl 660 fr el 646-ac lse, H. S. Brown sur.	3-15-45	8005	7144-7149	Wilcox sd; Eoc	F 147; 1/4"	Cond	5
Karnes		Magnolia's D. O. Klingeman 1, 467 fr nly nw& swl 672-ac lse, J. Bradberry sur.	6-23-45	8000	7880-7916	Wilcox sd; Eoc	F 414; 3/8"	52.9	1
Lavaca	Hope	Sterling's Seekamp & Palmer 1, 660 ne&nwl of 160-ac lse, being e of n 40-ac of 160-ac tr e of Crk.	1-20-45	8848	7700-7750	Wilcox sd; Eoc	F 48; 3/4"	53.8	2
Live Oak	Kittie West	Conoco's Kittie West Schreiner 1, 330 fr nel 330 fr nwl 80-ac lse, D. R. Faut & J. Poitevent sur on lot 567.	3-23-45	7614	6705-6711	Wilcox sd; Eoc	F 46; 3/4"	55.2	1
Nueces	Cheeves	L. M. Lockhart's C. Cheeves 1, 1650 fr s&el 1043-ac lse, San Antonio de Agua Dulce and Casa Blanca grs.	11-15-44	9097	5168-5182	Frio sd; Olig	F 11; open	cond	1
		LOWER TEXAS COAST—New Distillate Pays							
Brooks	Dan Sullivan	Sun's D. J. Sullivan 5, 467 fr wl 15,753-ac lse 12,800 fr sl 15,753-ac lse Loma Blanca gr.	9-10-45	9927	7831-7840	Frio sd; Olig	F 60; 5/64"	60	1
Refugio	La Rosa	Stanolind's J. W. Spaulding 9, 564 ewl 1228 nsl 160-ac lse in nw sect 3, Johnson-Pugh sub, Bonnie View reh.	7- 1-45	9172	6775-6785	Frio sd; Olig	F 189; 5/64"	62	1
Victoria	Heyser	Magnolia's O. M. Lander 1, 277 fr sel 38.43-ac lse J. E. Calahan sur.	3- 5-45	7444	7119-7123	Frio sd; Olig	F 124; open	cond	1
Willacy	La Sal Vieja (or Doke)	Magnolia- J. S. Abercrombie's H. Geis 1, 660 fr e&sl 94.8-ac lse, 6304 e 660 n of swc Harding-Lendahl sbdn lots 13&14 sect 30, Juan de Carricitos gr.	10-25-45	10098	8935-8955	Frio sd; Olig	F 86; 5/32"	54	1
		LOWER TEXAS COAST—New Gas Field							
Bee	Blanconia, S.	S. Chamberlain's H. C. Wood 1, 467 fr n&el 200-ac lse, J. M. Casillo sur.	9-25-45	5816	5230-5245	Vicksburg sd; Olig	F gas		1
Brooks	Gyp Hill (Loma Blanca)	Texas Co.'s M. M. Lasater 3, 4620 fr e&nl 2690.86-ac lse, Loma Blanca, F. G. Chapa gr, Burton & Danforth subdvn of Parrita reh.	6- 1-45	8518	6655-6670	Frio sd; Olig	F 28; 4½ mln; 1/4"		1
Goliad	Boyce	Magnolia's W. W. Boyce 1, 660 fr ne&nwl 77.58-ac lse CCSD-&RGNG sur.	5-31-45	8500	7470-7500	Wilcox sd; Eoc	F 110 mln; open		1
Hidalgo	Weslaco, S. W.	La Gloria Corp.'s South-Weslaco 1, 467 fr s&sl tr 371 sect 165 Llano Grande sur.	3- 1-45	8943	7404-7485	Frio sd; Olig	F 54 mln; open		1
Jackson	Westhoff Ranch	Stewart's A. E. Westhoff 1, 660 fr el 467 fr sl 120-ac lse, Jos. Rector lge.	1-28-45	6516	5428-5440 5964-5792	Frio sd; Olig	F 2 mln; 1/4"		1
Jackson		Sterling O&R Co.-Stewart Boyle's H. A. Meyer 1, 550 wel 620 snl 100-ac lse, Sutherland sur sect 5.	12-23-45	5052	4952-4957	Frio sd; Olig	F 3 mln. 1/4" F 2.7 mln; 1/4"		1
Jim Wells	Naylor	H. M. Naylor's L. Muil 1, 2310 wel 2970 snl 1134-ac lse, Pos Presenos de Abajo gr sh 3, 2-A.	9- -45	6400	3974-3984	Frio sd; Olig	F 12 mln; open		2
San Patricio	Calallen	Stanolind's Welder 3, 4020 e 4140 s of nwc of 2000-ac lse, F. T. P. Villareal gr.	2-18-45	8015	3375-3381	Cutahouta sd; Mio	F 7.4 mln; 1/4"		1
Victoria	Ragsdale	R. D. Reynolds' S. E. Ragsdale 1, 1800 sw of swl F. A. Gillespie 80-ac lse on 1000-ac lse, J. H. McConnaughey sur.	11-26-44	5978	4436-4444	Vicksburg sd; Olig	F 36 mln; open		2
Victoria	Marcado Crk	Taylor Ref. Co.'s R. F. Myer 1, 660 fr nw&swl 202-ac lse and and blk 48, A. Peets sur.	11- -45	5705	4720-4725	Frio sd; Olig	F gas		1
		LOWER TEXAS COAST—New Gas Pays							
San Patricio	Maedgen	Republic Nat. Gas Co.'s G. A. Person 1, 330 fr ne&swl 80-ac lse, J. J. Summers sur.	7- 6-45	5225	5174-5184	Frio sd; Olig	F 10 mln; open		1
Victoria	Gaffney	Arkansas Fuel's Terrell 2-A, 467 fr el 2120 fr nl ar ra 783.97-ac lse, M. Menchaca gr.	7- 6-45	5653	5312-5325	Vicksburg sd; Olig	F 11 mln; open		1
		LOWER TEXAS COAST—Gas Field Extension							
Bee	*Burnell*	Navarro's F. A. Dahl 1, 1552.75 fr nw&sel 466 fr swl 229.07-ac tr, G. Fagan sur, ¾ mi sw ext.	6-18-45	7013	6985-6993	Wilcox sd; Eoc	F 7.2 mln; open		1
		SOUTHWEST TEXAS—New Oil Fields							
Duval	Gormac	J. W. Gorman-McDermott's J. F. Welder 2, 330 fr w&sl sect 211, on 455.89-ac lse, J. Poitevent sur.	2-15-45	2510	2470-2480	Jackson sd; Eoc	F 107; 1/4"	24	9
Duval	Piedras Pintas	H. H. Howell's Geo. B. Parr 1, 1320 fr el 330 sl sur 185, 3100 e of Tex-Mex R.R., 485-ac lse.	12-15-45	5595	3798-3804 3990-4010	Yegua sd; Eoc Yegua sd; Eoc	F 246; 1/4" F 271; 1/4"	44 49.6	
Webb	N. Albercas	Blanco Oil-Al Buchanan's A. M. Bruni 1, 330 fr s&el blk 28, 4950 fr nl 5610 fr el Albercas gr, 960-ac lse.	12- 2-45	2318	2313-2318	Jackson sd; Eoc	P 81	24	
Zapata	McDermott	Humble's J. Y. McDermott 1, 1980 fr swl 660 fr nwl 1644-ac tr, S. Gutierrez pore 14.	1-11-45	7004	2609-2619		F 65; 1/8"		1
		SOUTHWEST TEXAS—New Oil Pays							
Duval	Sweden	M. M. Miller's G. Harbarger 1, 2019 ewl 1155 nsl blk 26, 330 wel 160-ac lse, S. Flores gr, Agua Poquita sur.	2- 9-45	5948	5839-5845		F 72; 8/64"	45.2	1
Starr	Boyle, E.	R. D. Farish's Sugarland Ind. 1, 330 fr w & sl tr "E" and 100-ac lse, Prc 92 sh 7-B.	3-27-45	4195	4031-4043	L. Frio sd; Olig	F 114; 1/4"	46.4	1
Starr	Boyle	Geo. Irving's M. M. Garcia B-1, 330 fr e&sl blk 12 sh 7-B pore 91, 40-ac lse.	1-15-45	4264	4080-4127	Vicksburg sd; Olig	F 120; 8/64"		1
Webb	Staggs	T. Graham-Lacy Pet.'s Cole Pet. 1, 330 fr nwl 330 fr swl 490-ac lse, M. Arispe gr, Bruni twnsite lot 1, blk 5.	6-22-45	3515	2800-2812	Cockfield-Yegua sd; Eoc	F 102; 1/2"	37.8	2
		SOUTHWEST TEXAS—Oil Field Extension							
Starr	Rincon	Harrus Synd's M. M. Garcia 1, 330 fr wl pore 91, 330 s of sl sur 917, being nl blk 26 and lse.	11-29-45	4520	3498-3512	L. Frio sd; Olig	F 123; 1/8"	41	2
		SOUTHWEST TEXAS—New Distillate Field							
Zavala	Leona River	Texas Co.'s Nat. Bank of Commerce 1, 1980 fr wly/nwl and sly/nel, E. A. Wolf sur, A-1202 and of 316-ac tr.	2- 5-45	4933	4223-4236		F 14; 1/4"	dist	1

PARDON OUR ENTHUSIASM---

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FORMATION, Hard Shale and Lime. The Globe Side Hole Cutter was run in a well that had been drilled to 7,715 feet, in which several types of 8¾" rock bits were used after reaching 4,000 feet. None of these bits ran more than 17½ hours or drilled more than 37 feet of hole before the Globe Side Hole Cutter was used, and all were losing as much as ¾" in gage.

An 8¾" Side Hole Cutter was run in this well, and first reamed 21 feet to actual bottom. In combination with a rock bit it then drilled and reamed 16 feet, and when pulled the bit measured 8½", having lost ¼" in gage. The Globe Side Hole Cutter measured a full 8¾".

The same Globe Side Hole Cutter was run in again and went directly to bottom, showing that the hole had been reamed to full gage on the previous run. The drilling bit and Side Hole Cutter in combination drilled and reamed 69 feet in 31¾ hours on this run, an increase of nearly 100% in both footage and operating time over any previous run. When pulled, the Side Hole Cutter measured only 1/32" under its original size during the 69 foot run.

There are many records that prove the Globe Side Hole Cutter is indispensable to speed, efficiency and economy in modern drilling practice. Write or call any Globe office or distributor for detailed information.

Used for reconditioning old holes, and run from top to bottom in new holes. Maintains full gage hole all the way to bottom. Stabilizes the drilling bit and prevents the hole from going off vertical in any formation. Extraordinary reaming ability due to 10-12 point side hole contact, in contrast with the 3 point contact of ordinary reamers. Eliminates the necessity of scrapers and reamers. Assures faster drilling, longer runs, lower drilling costs.

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GLOBE SIDE HOLE CUTTER

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		SOUTHWEST TEXAS—New Gas Fields							
Duval	Rosalie	Santa Clara Oil Co.'s Clara Driscoll 3, 1320 fr el 330 fr sl sect 56 Santa Rosalis gr, 3120-ac lse.	5-20-45	3218	3157-3166	Catahoula sd; Mio	F 12 mln; Open	....	2
Zapata	Echols	Geo. H. Echols' T. Dominguez 1, 660 sw of nel 660 se of nel 401-ac lse, Porc 31 sd X.A.	11-12-45	2242	1948-1968	.....	F gas	....	1
		SOUTH CENTRAL TEXAS—New Oil Fields							
Wilson	Ormsby	L. D. Ormsby's Williamson Hrs 1, 330 fr s&wl Williamson Hrs 240.66-ac tr, M. Contis sur.	12-30-45	5062	5042-5062	.....	F 127; 10/64" w	18.3	1
Wilson	Stockdale	Stanolind's J. E. Watkins 1, 467 fr se&swl 60-ac lse, James James Bradley sur.	2-19-45	5195	5145-5154	Wilcox sd; Eoc	P 13; 23/64" w	....	1
		SOUTH CENTRAL TEXAS—New Gas Fields							
Atascosa	.....	Humble's Henry Schorsh 1, 660 fr n&wl blk Atascosa Colony Farms subdn, 460.5-ac lse, Ewdards Estes sur.	12-26-45	7405	7263-7300	Ewdards li; Cret	F 5 mln; open; 1/4"	....	..
Dimmit	Carrizo Park	Humble's H. S. Davis 1, 660 fr nw&swl lot 6, T&NO sur 15, blk 1, 534.5-ac lse.	11-14-45	7550	2710-2717	Navarro sd; U Cre	F 5.8 mln	....	1
Dimmit	McKnight Ranch	Calatexia Oil Co.'s S. E. McKnight 1, 467 e 2366.5 s fr nec sect 22, 153-ac lse sect 35, blk 13.	7-13-45	2995	2638-2646	Olmos sd	F 1.3 mln; open	....	1
		NORTH TEXAS—New Oil Fields							
Archer	Burns-Benson	L. T. Burns' Benson 1-E, 330 snl 467 ewl TE&L 1808	5-26-45	5428	4593-4600	Bend li; Penn	P 70; 3 wtr	42.3	2
Archer	Manning	Manning-Brown's A. P. Nichols 1, 330 out nec ATNCL 50	9- 3-45	5543	5486-5506	Ellenburger dolo; Ord	F 407; 70 wtr	44.6	3
Archer	.....	P. C. Burns' G. F. Parsons 1, 850 nsl 1350 ewl EL&RR 1	7- 6-45	1495	1488-1495	Cisco sd; Penn	1/8" P 10	....	1
Archer	.....	C. E. Morrison-Maguire Ind's W. M. McGregor 4, 197 snl 450 wel of w½ subdiv 7, Brazos C.S.L.	1-18-45	872	861- 872	Cisco sd; Penn	P 9	....	1
Archer	.....	Robertson Drlg. Co.'s J. T. Richardson 1, 1320 snl 330 wel blk 14, J. Scott sur.	9- 1-45	5222	4702-4710	Bend li; Penn	F 4688; 1/16"	40.5	2
Clay	Buffalo Springs	Continental's A. E. Thomas 1, 330 snl 990 ewl sec 34, Freestone C.S.L.	5-16-45	7106	4130-4150	Strawn sd; Penn	P 33	39	1
Clay	.....	W. H. Hammon's H. W. Bryans 1, 660 out nec 426.9-ac tr, M. F. E. Simms sur.	9- 1-45	6502	5861-5898	L. Bend li-cgl; Penn	P 19; 5 wtr	41	1
Clay	Heard	Continental's S. W. Heard 1-C, 467 nsl 1400 ewl TE&L Co. sec 3222.	10-23-45	6493	6468-6493	Ellenburger dolo; Ord	F 1170; 1/2"	41	1
Cooke	Almon	Suggs-McElreath-Suggett & Neal's L. M. Almon-Sun 1, 330 snl 1075 ewl J. M. Randolph sur.	8-20-45	2907	2898-2907	Strawn sd; Penn	P&F 87	33	2
Cooke	Myra, S. E.	D. Helms' L. Blocker 1, 1470 fr nwl 3200 fr nel J. Rodriquez sur	7- 4-45	1602	1589-1593	Strawn sd; Penn	P 10; 7 wtr	....	1
Cooke	.....	J. L. Anderson's J. T. Mooney 1, 330 out nec 150½-ac tr, or 4300 fr m/s/s & 2500 fr m/e/e l of A.C.C. Bailey sur.	12-21-45	3943	3933-3943	Basal Strawn sd; Penn	P 211	31	1
Cooke	Gatewood, N	Hollandsworth Drlg. Co.'s W. A. Mathews 1, 1400 ewl 330 snl, Robt. Ekey sur.	6-17-45	1548	1543-1548	Strawn sd; Penn	P 80	....	34
Jack	Borden	Continental's S. F. Borden 1, 990 out nwc E. S. Wilson sur.	7-25-45	6927	6722-6860	Simpson li; Ord	F 618; 1"	42	1
Jack	Cherryhomes	Panhandle Ref. Co.'s T. H. Cherryhomes 1, 467 nwl 2498 fr m/w/wl S. Gorder sur.	3-18-45	5092	5035-5050	L. Bend li; Penn	F 168; 1/2"	41	3
Jack	Joplin	Roeser-Pendleton-F. Johnson's D. C. McAnnaly 1, 660 out sec 18, blk 2, Henderson CSL sur.	8-11-45	4446	4430-4446	Bend li; Penn	F 254; 3/4"	41.8	2
Jack	Matlock, S. W.	Hanlon & Buchanan's W. R. Mathis 1, 467 nsl 1040 wel G. W. Davis sur.	8-12-45	4770	4758-4764	Bend cgl; Penn	F 397; 1"	42	1
Jack	Hoefle, N. E.	Hanlon & Buchanan's C. L. Whitsett 1, 467 out n lot 22, BBB&C Ry. Co., sur, sec 2.	10-23-45	5184	5173-5184	Bend li; Penn	P 40; 40 wtr	....	1
Jack	Sewell, E.	J. Stewart's J. W. Kinder 1-D, 467 out nwc B. H. Epperson sur	2-21-45	4652	4204-4225	Marble Falls sd; Penn	F 90; 1/4"	40	3
Montague	Belcherville	Venmex Oil Co.-Aro Equip. Corp.'s A. E. Beakley 1, 330 ewl 400 nsl n½ blk 21, M. Garnett sur.	10-12-45	5913	5347-5356	Bend cgl; Penn	F 993; 3/4"	44	5
Montague	Hutson	Texas Co.'s L. A. Hutson 1, 660 out sec G. W. Fletcher sur	1-18-45	4185	1913-1928	Strawn sd; Penn	P 78; 32 wtr	....	1
Throckmorton	Ewalt, N	J. Stewart's J. W. Tharp 1, 467 out sec TE&L 3007	2- 2-45	4885	4260-4270	Bend li; Penn	P 171; 34 wtr	....	3
Throckmorton	.....	Guinn-Myers' M. Daws 1, 150 nsl 1800 wel C. W. Marquess sur.	6- 1-45	523	522- 523	Cisco sd; Penn	P 2	35	1
Wilbarger	National	Natl. Assoc. Pet.'s S. Kelly 1, nw nw nw H&TC 30, blk 13	6-29-45	4926	4910-4926	Ellenburger dolo; Ord	F 117; 13 wtr 2"	41	3
Young	Kerlyn-Bryan	Kerlyn-Phillips' J. W. Bryan 1, 330 snl 1464 ewl, TE&L 1902	8-30-45	5576	4373-4381	Bend li; Penn	F 414; 1/8"	43	1
Young	Kerlyn-Edwards	Kerlyn-Phillips' W. E. Edwards 1, 330 out nec TE&L 1481	9-19-45	5113	5106-5113	Miss li; Miss	F 614; 11/64"	43.5	2
Young	Prideaux	Fain & McGaha's H. O. Prideaux 2, 150 n 1150 w of nwcs ec 2, A. Williams-C.T.Ry. sur.	6-30-45	3637	3622-3637	Strawn sd; Penn	F 404; 1/2"	42	5
Young	Spring Creek	T. F. Hunter's G. H. Roach 2, 542 wel 767 nsl sw¼ TE&L 304	11-10-45	1234	1220-1227	Cisco sd; Penn	P 10; 10 wtr	....	1
Young	Olney, S. W.	L. T. Burns' J. H. Crain 1, 330 out sec n½ TE&L 169	10-19-45	4955	4938-4955	Mill li; Miss	F 1440; 3/4"	44.5	2
Young	.....	Fleming Oil Co.-Hanlon & Buchanan's Graham-Tankersley 1, 330 out nec sw¼ sec. 741, TE&L sur.	9-29-45	4947	3417-3425	Strawn sd; Penn	P 25; 30 wtr	38.5	1
Young	.....	A. Kriss's D. R. Willard 1, 1416 nsl 450 ewl TE&L 227	11-10-45	994	991- 994	Cisco sd; Penn	P 10	36	1
Young	True, W	R. J. Watson's J. H. Choate 1, 150 snl 250 wel TE&L 254	1-26-45	620	610- 620	Cisco sd; Penn	P 6; 15 wtr	38	1
		NORTH TEXAS—New Oil Pays							
Archer	Burns-Benson	L. T. Burns' R. Campbell 1, 467 nsl 1400 wel TE&L 1388	11- 6-45	5097	5085-5097	Miss li; Miss	P 151	45	1
Clay	Joy	Shell's M. Clark 4, 1050 nsl 473 ewl blk 22, H. Williams sur	8-12-45	6054	4445-4468	Strawn sd; Penn	F 257; 1/2"	41	3
Clay	Ross, W	Conco's A. T. Morris 1, 1529 nsl 330 wel W. C. Davis sur	1-15-45	5870	4754-4796	Strawn sd; Penn	P 30; 15 wtr	41	4
Cooke	Almon	Murray's Gregory 1, 2440 snl 2050 wel J. M. Randolph sur	10-27-45	3485	3482-3485	Strawn sd; Penn	P 142	30	2
Cooke	Sivells Bend	Magnolia's Joe Dillard 1, 330 out swc D. Martin sur	9- 3-45	7415	7400-7413	Strawn sd; Penn	F 189; 1/2"	36	1
Cooke	Sivels Bend	Sun's K. Allen 1, 467 nsl 400 wel 77-ac tr, Sol Gann sur	12- 7-45	7450	6280-6300	Strawn sd; Penn	F 253; 3/4"	36	1
Montague	Hundley	Continental-Sinclair's J. M. Hundley 1-B, 330 out s cor 88-ac lse, 3500 fr nwl 330 fr swl D. Martindale sur.	1-15-45	6450	5688-5696 5708-5726	Strawn sd; Penn Strawn sd; Penn	P 25; 11 wtr	41	1
Throckmorton	Ewalt	Panhandle Ref.-Anderson-Prichard's W. B. Ewalt 2, 1400 snl 1500 ewl sec. 2185, TE&L sur.	1-12-45	5026	4802-4807	Miss li; Miss	P 50; 40 wtr	41	2
Wilbarger	Harrold	Big Six Oil's Schlaffke-Morris 1-A, 760 nsl 737 wel H&TC Ry. 3 blk 14.	3- 3-45	5146	4830-4874	Miss li; Miss	F 62; 3/4"	45	1
Wilbarger	Harrold	Lincoln-Moore's Kelly 1-B, 466 out nwc H&TC 34, blk 13	6-14-45	5409	4316-4330	Bend li; Penn	P 70; 5 wtr	40	1
Wilbarger	National	Natl. Assoc. Pet.'s S. Kelly 1-B, se se se H&TC 36, blk 13	8-23-45	3679	3649-3679	L. Canyon li; Penn	F 300; 3/4"	39	2
Wilbarger	National	Natl. Assoc. Pet.'s O. Havens 1, ne ne ne H&TC 31, blk 13	9-24-45	3707	3162-3172	Canyon li; Penn	F 422; 12 wtr	38	1
Young	Burns-Larimore	L. T. Burns' E. J. Larimore 2-A, 938 snl 1134 wel TE&L 150	1-20-45	3324	3319-3324	Strawn sd; Penn	P 75; 35 wtr	41	1
Young	Farmer-Garvey	Standard of Ohio's J. R. Garvey-Garr 2, 330 wel 1184 snl 220.2-ac of BBB&C Ry. sec 1.	2-15-45	5340	5186-5216	Miss li; Miss	F 465; 32 wtr 1/2"	45.9	1
Young	Fleming-Graham	Fleming Oil's R. T. Sweeney 1, 330 out nwc TE&L 2917	10- 2-45	4697	2880-2890	Strawn sd; Penn	P 10; 30 wtr	39	1
Young	Grace-Stovall	Grace's E. C. Stovall 2, 330 ewl 1320 snl TE&L 495	7- 1-45	4680	4655-4680	Miss li; Miss	P 10; 50 wtr	....	1
Young	.....	Republic Nat. Gas-Fred M. Manning's M. K. Graham 1, 1450 snl 467 ewl of e 320-ac of sec 1, J. Poitevent sur.	12- 4-45	3090	3075-3090	Strawn sd; Penn	F 100; 1/2"	41	1
Young	.....	Robertson's N. Burch 1, 330 out nec sw¼ TE&L 466	12- 1-45	4791	3794-3890	Strawn sd; Penn	P 46	39.9	1
		NORTH TEXAS—Oil Field Extensions							
Cooke	Sivells Bend	Sun's Field 1, 467 out m/e/ne cor 253-ac, M. J. Eason sur	7-14-45	7024	6670-6680	Strawn sd; Penn	F 244; 3/8"	40.3	3
Montague	Hildreth	A. R. Dillard's J. T. Lawson 1, 467 w 3652 n nwc B. Anibal sur, but in N. Kimbro sur, 2½ mi n by w ext.	9-28-45	6157	5992-6021	Bend cgl; Penn	F 1836; 1/2"	42	8
Montague	Stoneburg	Continental-W. B. Omohundro's E. S. Johnson 1, 2450 ewl 2750 snl sec 6, Limestone CSL sur, 1¼ mi n by e ext.	7- 9-45	6145	5996-6018	Bend li; Penn	F 1856; 11/64"	42	5
Wichita	Madden	W. H. Hammon-Hanlon-Buchanan's T. R. Boone 1, 467 nsl wel blk 29, Parker sbdv S.P.Ry. sec 1, 1¼ mi w by n ext.	9- 1-45	4210	4171-4210	Strawn sd; Penn	F 1130; 3/4"	42	1
Young	Farmer	Standard of Ohio's J. R. Gravey 1-C, 330 out swc sec 1802, TE&L sur, 1¾ mi w ext.	3-26-45	5415	5170-5200 5092-5154	Miss li; Miss Miss li; Miss	P 37; 75 wtr	44	1

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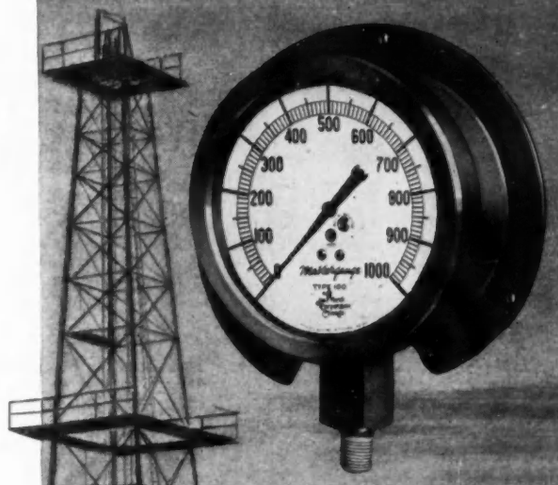

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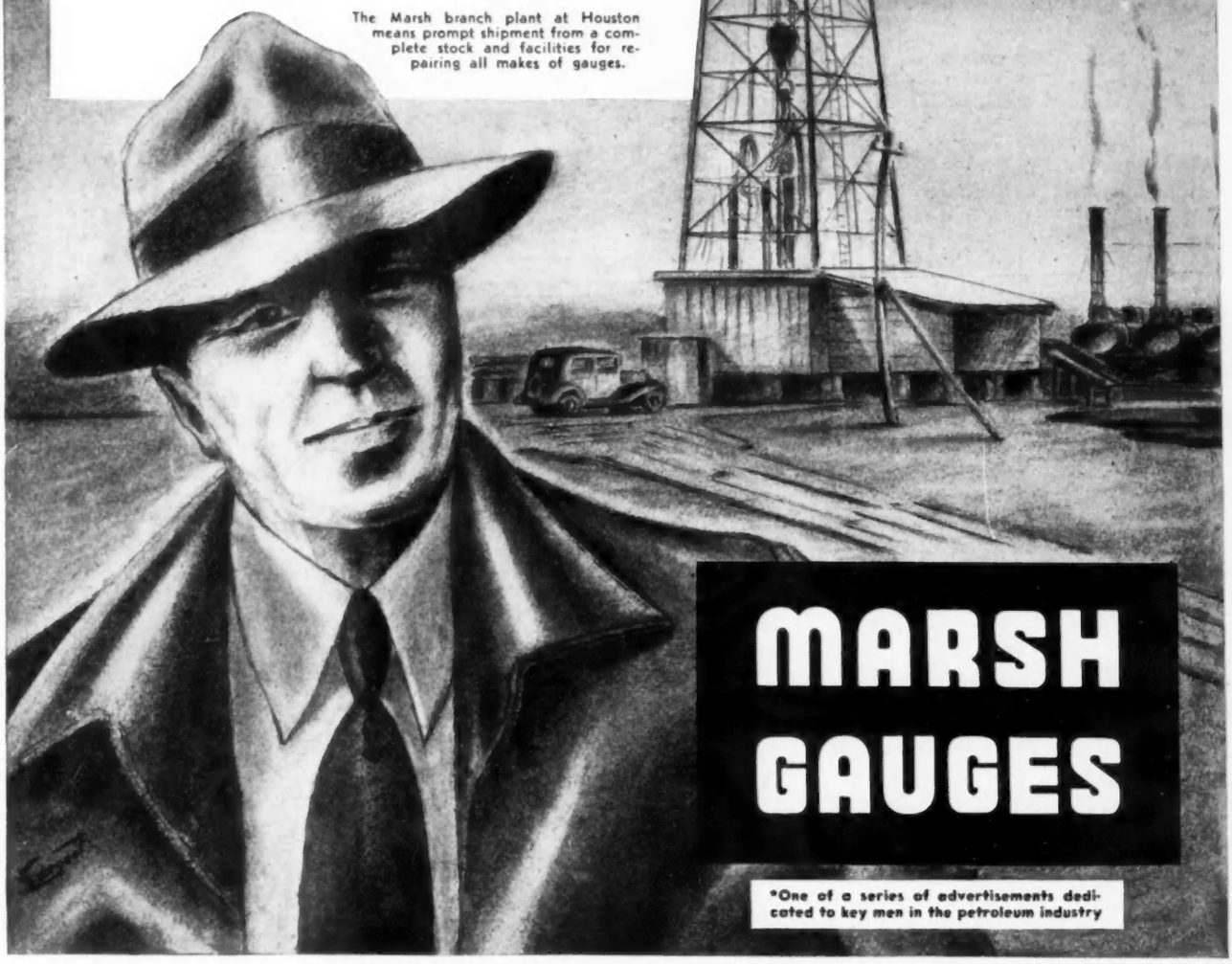


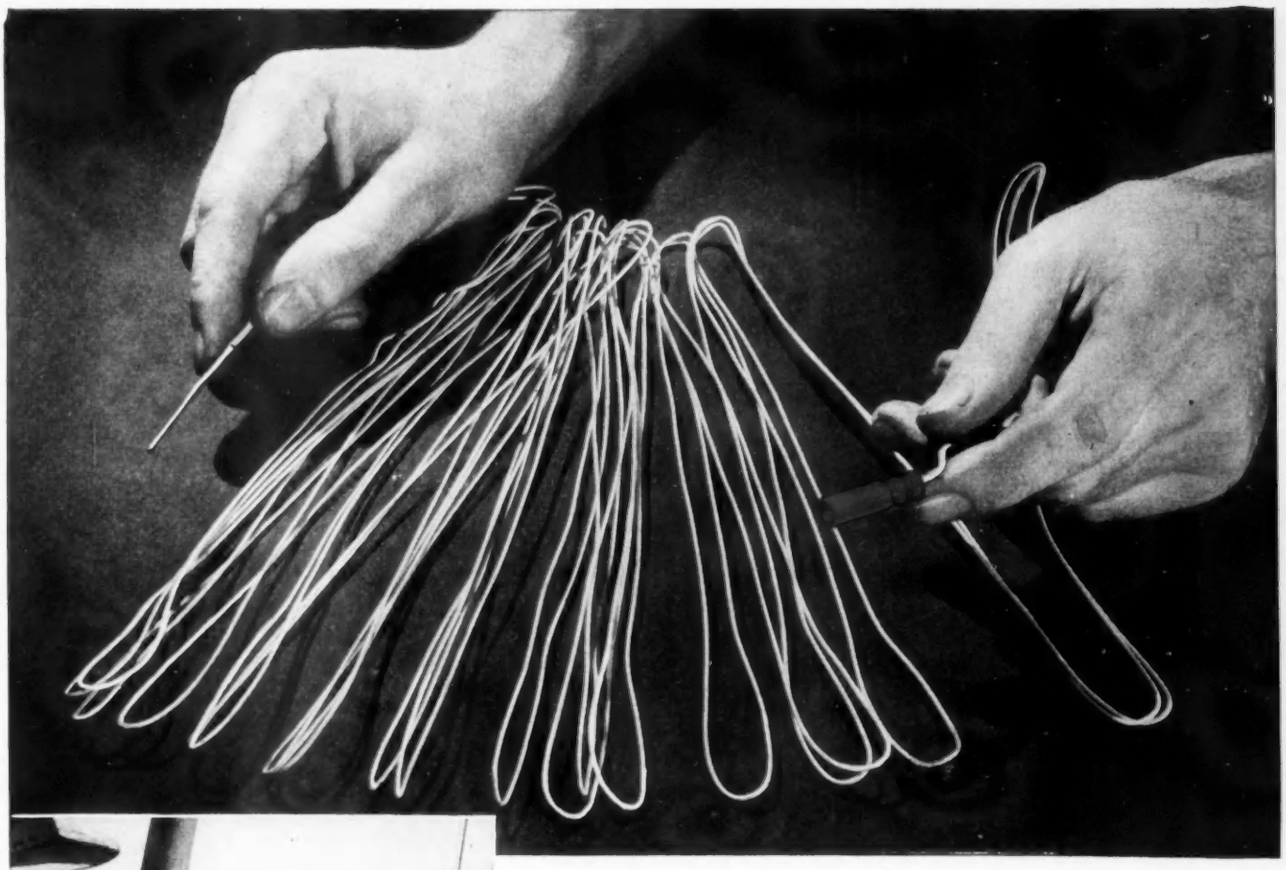
MARSH GAUGES

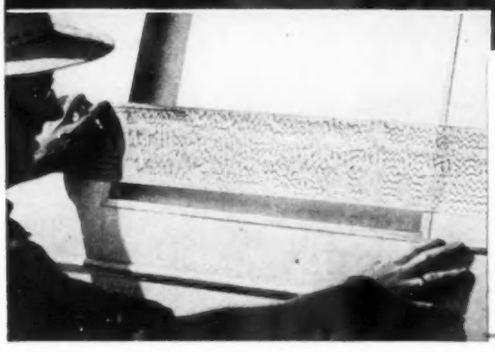
*One of a series of advertisements dedicated to key men in the petroleum industry

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		NORTH TEXAS—New Gas Field							
Throckmorton		H. T. Merrill's R. H. Brown 1, 1540 nsl 150 ewl TE&L 1613	6-25-45	912	900- 912	Cisco sd; Penn	F 2 mln		1
		NORTH TEXAS—New Gas Pay							
Young	Fleming-Graham	Fleming Oil-Kimbell Corp.'s M. K. Graham 4, 700 ewl 385 snl TE&L Co. sec 2912.	1- 1-45	608	490- 495	Cisco sd; Penn	F 5 mln		1
		WEST CENTRAL TEXAS—New Oil Fields							
Coleman		Hunter's T. J. Hudson 1, 330 out sec w½ D. F. Roddan sur 42	7- 5-45	3712	3609-3630	Strawn sd; Penn	P 64; 48 wtr	46	1
Coleman		White-Newman's C. L. Gunn 1, 990 nsl 660 ewl HT&B 40	5-31-45	3515	3355-3375	Strawn sd; Penn	F 12; ¼"	42	1
Concho	Eden	Eltex's E. L. Martin 1, 330 out nec sec 6, Wm. Hughes sur	10- 2-45	4392	3801-3809	Marble Falls sd-li;Penn	F 648; ½"	44	1
Fisher		Grapeland Oil's C. F. Brooks 1, c nw nw H&TC 80 blk 1	6-15-45	5113	4973-5090	Strawn li; Penn	Bailed 5		
Jones	Amason	Hunt's T. J. Amason 2, 3528 nsl 2997 ewl S. Jones sur 266	1-28-45	3608	3592-3607	Canyon sd; Penn	P 126	40	1
Jones	Cooper	S. B. Roberts' O. J. Cooper 1, 480 out sec sw T&P 29, blk 15	7-11-45	2332	2312-2332	Swastika li; Penn	F 451; 1"	40	6
Jones	McCright	Texas' M. A. McCright 1, 3500 nsl 330 wel S. Scallorn No. 280.	1- 4-45	3210	2518-2546	Noodle Creek li; Penn	P 44; 4 wtr	39	2
Jones	Prims-Martin	Primo Oil Co.'s M. A. Martin 1, 330 snl 800 ewl 320-ac tr and sec 13, Jos. Weihl sur.	3-23-45	1638	1623-1633	Bluff Creek sd; Penn	P 115	36.4	2
Jones	Wimberly, N. E.	Crown Central's B. A. Stephenson 1, 990 snl 660 wel of n 120-as sec 4, J. Winters sur No. 138.	9- 6-45	2579	2575-2579	Gunsight li; Penn	F 252; ⅜"	44	1
Jones		R. H. Roark-L. F. Hooker's M. H. Myatt 2, 2260 snl 1780 wel J. H. Warfield sur No. 10.	7-13-45	1424	1410-1424	Fry sd; Penn	P 40	36	1
Jones		M. M. Travis' A. Nobles 2, 990 nsl 330 ewl 87½-ac lse, N. Travvino sur No. 190.	3-23-45	2188	1937-1948	Flippen li; Penn	P 4; 3 wtr		1
Shackelford		A. M. Hagan-W. W. Harvey & H. H. Henderson's J. H. Nail 1, 1940 wel 2640 nsl sec 126, E.T.Ry sur.	5- 4-45	1380	1315-1324	Cook sd; Penn	P 62	34	1
Shackelford		Harry P. Key's W. H. Green 1, c nw se T&P Ry. 47, blk 11	5- 5-45	4451	3010-3017	Strawn li; Penn	P 99; 8% wtr	42	1
Stephens	Loving, N. E.	W. R. Skeen's Hatchett 1, 549 snl 995 ewl sect. 33, Orphan Asylum Lds.	12- 3-45	4228	4215-4218	Ellenburger dolo; Ord	F 315; 7dwtr ¾"	43.6	1
Stephens		Sinclair's C. E. Tipton 1, 330 out nec sec 2960, TE&L sur.	7-19-45	4164	4056-4164	Ellenburger dolo; Ord	F 25; 1½ wtr 2"	40	1
		WEST CENTRAL TEXAS—New Oil Pays							
Jones	Cooper	S. B. Roberts & Hunter's O. J. Cooper 2, 330 wel 1216 nsl sw¼ T&P Ry. 29, blk 15.	8-11-45	2353	1989-2004	Flippen li; Penn	F 1336; 2"	37	2
Jones	Noodle	Humble's Horton 1, ne ne ne T&P Ry. 40, blk 18	11-21-45	3261	3250-3256	Home Creek li; Penn	F 828; ¾"	43.9	1
Jones	Swan	Rhodes Drlg. Co.'s W. D. Swann 1, 467 fr se 990 fr sw 1 of 80-ac lse, or 3917 nsl 990 ewl I. Miley sur 281.	12- 3-45	2953	2700-2743	Saddle Creek sd-li; Penn	F 1023; ¾"	38.5	1
Palo Pinto	Conway	W. K. Grodon's J. W. Conway 5, 1320 ewl 50 nsl T&P 50, blk 2, ¾ mi n by w of wildcat gasser at 3969-73 ft.	6-10-45	3576	3567-3576	Penn sd; Penn	F 21; 55 wtr 3.8 mln; 2"		
Runnels	Leonard	O. P. Leonard's F. Thompson 1, 660 out sec ET. Ry. 109	9-10-45	2418	2412-2418	Canyon li; Penn	F 556; ½"	43	1
Stephens	Breckenridge	Texas Co.'s J. W. Parks 47-A, 834 nsl 1637 wel TE&L 3373	4- 8-45	4305	4162-4167 4150-4154	Ellenburger li; Ord	P 9	42.7	1
Stephens	Caddo, N.	American Mfg.'s R. M. Rogers 1, 800 out swe T&P 27, blk 5	4-19-45	4513	4471-4513	Ellenburger dolo; Ord	F 92; ¼"	46	1
		WEST CENTRAL TEXAS—New Gas Fields							
Coleman		W. W. Harvey-H. H. Henderson's J. E. McCord 1, 600 s 614 e of nec sec 318, W. Shepherd sur, but in J. W. Meeks sur No. 159	6- 2-45	3880	3430-3462	Fry sd; Penn	F 4.1 mln		1
Concho	Eden	Northern Ordance's L. Sorrell 1, 2310 snl 2316 ewl sec 206, E. Kempner sur.	5-11-45	3322	3294-3302	Marble Falls li;Penn	F 51; 20½ mln		3
Eastland	Nimrod	Kerlyn-Phillips' A. E. Harrelson 1, c ne sw H&TC 101, blk 3	12-15-45	3819	3278-3286	Marble Falls sd; Penn	F 4½ mln		1
McCulloch		Mass-Tex's Lawson 1, 860 snl 350 wel, V. Holman sur 1093	2- 1-45	1563	1556-1563	Bend li; Penn	F 2.5 mln		1
Shackelford		Eltex, Ltd's G. R. Davis 1, nw nw nw T&P Ry. 57, blk 13	3- 6-45	1812	1800-1812	U Hope sd; Penn	F 3 mln		1
		WEST TEXAS—New Oil Fields							
Andrews	Bedford	Shell-Texas Ratliff-Bedford 1, c nw ne PSL 4, blk 73	11- 1-45	11469	8780-9150 11018-11320	Devo li; Devo Ellenburger dolo; Ord	F 1105; ½" F 1214; ½"	42.9 44.3	1 1
Andrews	Dollar Hide	Magnolia-Humble's E. P. Cowden 1, c nw se PSL 7, blk A-55.	8-23-45	8051	7900-7960	li; chert; Devo	F 244; ¾	38.2	1
Andrews	Fullerton, S.	Stanolind's University 1-P, c ne ne sec 44, blk 13	4-15-45	8855	8750-8770	Devo li; Devo	F 439; ¾"	44	2
Andrews	Martin	Sun's N. C. Martin 1, c se se PSL 17, blk A-41	3-16-45	7036	6850-7036	Clear Fork li; Perm	F 301; ¾"	35.7	1
Andrews	Three Bar	Stanolind's Univ. I-D, 2051 ewl 660 nsl sec 8, blk 11	3- 6-45	10466	8300-8350	Devo li; Devo	F 289; ¾	41	2
Cochran	Landon	Stanolind's J. F. Edwards 1, 660 ewl 1980 snl, PSL 13, blk L	7-11-45	5111	5040-5080	San Andres li; Perm	F 386; 2"	32.2	1
Crane	Block 31	Atlantic's University 1-A-31, c ne se sec 33, blk 31	11-19-45	10458	8812-8869 10380-10458	Devo li; Devo Ellenburger dolo; Ord	F 775; ½" F 414; ½"	47.3 47.2	1 1
Crane	Henderson	Gulf's U. Henderson 1-E, 660 snl 1980 wel PSL 25 blk B-27	6-29-45	6625	4350-4409	Clear Fork li; Perm	F 2; 52 wtr ½"		2
Crane		Magnolia's H. H. Tucker 1-B, 330 fr nwl 1868 fr nel H&TC Ry. 25, blk 1.	10-18-45	5817	5785-5809	Waddell sd; Ord	P 19	38.6	1
Ector	TXL Devonian	Shell-Cities Service's T. P. Land Trust 1, 664 nsl 667 wel, T&P Ry. blk 45, T-1-S.	1- 3-45	10181	7886-8020	Devo li; Devo	F 1911; ½"	41	39
Gaines	Jones Ranch	Amerada's E. H. Jones 1-A c nw ne PSL 3, blk A-6	11-13-45	11635	11181-11284 11380-11422	Devo li; Devo	F 1014; 1¼"	43.5	1
Gaines	Robertson	Texas Co.'s J. B. Robertson 2, c ne ne PSL 21, blk A-24	3- 9-45	6455	6260-6420	Clear Fork li; Perm	F 363; 2"	29.1	2
Garza	Hitt	Honolulu-Devonian's Hitt 1, sw ne ne HE&WT 2, blk 1	3-22-45	3553	3512-3553	San Andres li; Perm	P 135; 12 wtr	37.1	1
Hockley	Levelland	Texas Co.'s L. Y. P. Montgomery 1, 580 out nec labor 19, lge 70, Val Verde C.S.L.	2-23-45	4927	4750-4927	San Andres li; Perm	P 95; 9 wtr	29	3
Howard	Fairview	Bruce Clardy's Fee 1, c sw sw T&P Ry. 4, blk 33, T-1-n	12-19-45	3560	3100-3140	San Andres li; Perm	P 28; 14 wtr	28.3	1
Irion	Tankersley	Shell's Tankersley 2, c sw sw GC&SF Ry. sec 10	7-13-45	8408	7195-7200	Strawn li; Penn	F 96; ⅛"	45.4	1
Lubbock	Cravens	Seaboard-Stanolind's L. M. Cravens 1, c sw sw L&SV 16, blk D	2-28-45	8800	6050-6166	Clear Fork li; Perm	P 136; 34 wtr	24	1
Midland		Humble's O. P. Buchanan 1, 660 ewl 1980 snl W. Baldridge 32	11- 6-45	12574	10370-10390	Penn li; Penn	F 270; ¼"	45.7	1
Pecos		Patillo's T. Davis 1, 1050 wel 2400 nsl H&GN 105, blk 8	8-19-45	1568	1559-1568	Yates li; Perm	F 70; 1130 w	21.4	1
Runnels	Leonard	Leonard's A. V. Livingston 1, 660 out sec J. H. Larrimore 110	4- 5-45	3085	3015-3029	Strawn li; Penn	F 296; ¼"	39.7	1
Terry	Alexander	Leland Fikes-Jno. Murchison's C. R. Alexander 1, 670 snl 542 ewl PSL sec 18, blk K, 7 mi sw Slaughter fld.	1-15-45	5157	5121-5157	San Andres li; Perm	P 98; 3 wtr	30	4
Upton	Upland	Humble's J. M. Parrott 1, c se se sec 3, EL&RR sur.	7- 7-45	10744	9100-9893	L Perm li; Perm	P 5; 1½ wtr	42.3	1
Ward	Gulf-Edwards	Gulf's J. Edwards 2-B-T, 330 fr se 3696 fr nel J. M. Andrews 6.	2-27-45	6439	4386-4562	Holt sd;-li Perm	P 61	36.4	1
Yoakum	Brahaney	Dunigan Bros. & F. T. Branhaney's W. S. Hodges 1, c nw nw sec 446, blk D, J. H Gibson sur.	6-26-45	7717	5250-5292	San Andres li; Perm	P 76	32	1
		WEST TEXAS—New Oil Pays							
Andrews	Fullerton	Chalmette's Lake Shore 1, c nw ne PSL 24, blk A26	5-30-45	7637	4580-4650	San Andres li; Perm	P 40; 4 wtr	35.2	1
Andrews	Fullerton	Fullerton's Wilson 322-A 1988 ewl 1985 snl PSL 16, blk A32	12-11-45	9945	9895-9945	Ellenburger dolo; Ord	F 562; ⅝"	40.6	1
Andrews	Martin	Humble's J. E. Parker 1, c nw ne PSL 24, blk A-41	11-10-45	9072	8700-8790	McKee sd; Ord	F 577; ½"	42.3	1
Crane	Crossett	Texas Co.'s C. W. Holt 3-B, c n¼ of s¼ H&TC 33, blk 35	1-16-45	6710	3190-3210	Holt li; Perm	F 221; ¼"	42	1
Crockett	Todd	Amerada's J. S. Todd 7-A, c se ne GC&SF Ry. 25, blk WX	2-26-45	6350	6232-6318	Ellenourger dolo; Ord	F 2292; ¾"	41.9	15
Ector	TXL-Ellenger	Shell's E. R. Thomas 1-A, c nw nw T&P 8, blk 45, T-1-S	5-15-45	9852	9795-9852	Edenburger dolo; Ord	F 1547; ½"	44	11
Gaines	Russell 6100	Shell's E. H. Jones 2-A, c sw ne CCSD&RGNG 490, blk G	4- 3-45	7775	6090-6140	Tubb li; Perm	F 327; ½"	32	1
Pecos	MacDer	Humble's D. C. O. Wilson 1, 711 nsl 1980 ewl T&SL 1, blk 145	3-22-45	5238	4723-4733	Wolfcamp	F 71; ⅛"	32	1
Pecos	White & Baker	Helmerich-Payne's White & Baker S-C, c ne¼ TC44 blk Z	12- -45	9811	7612-7628	Penn	F 176; ¼"	37.9	
Ward	Monahans	Shell's Sealy-Smith 6, c nw se G&MMB&A 37, blk A	8-11-45	8058	4730-5020	Holt li; Perm	F 481; ½"	37	2
Winkler	Keystone	Sun's Keystone 2, 660 nsl 1987 wel PSL sec 4, blk 77	6- 2-45	10396	8460-8594	Silurian li; Sil	F 63; 30 wtr	31.4	1
Winkler	Wheeler	Stanolind's Wascell 1, c se se PSL 8, blk B-7, ½ mi nw ext.	12- 5-45	10813	9270-9390	Silurian li; Sil	P 141; 25 wtr	31	1
Winkler	Wheeler	Sun's R. A. Wheeler 1, c ne se PSL sec 13, blk B-7	3-22-45	10610	8540-8590	Devonian li; Devo	F 371; ¼"	34.3	4
		WEST TEXAS—Oil Field Extensions							
Andrews	Fuhrman-Mascho	Stanolind-Continental-Superior's University 1-R, c se se sec 5, blk 9, 1½ mi se ext.	11- 2-45	5539	4340-4400	Grayburg & San Andres li ;Perm	P 104; 14 wtr	28.9	1
Andrews	Mascho-Fuhrman	DeKalb Agric. Assn's Lockhart-Brown 1-A, c se nw PSL 15, blk A-42, 1¼ mi nw ext.	5-31-45	4595	4364-4540	Grayburg-San Andrews li; Perm	P 131; 5% wtr	31.5	2
Andrews	Fullerton, S.-Devo.	Mid-Continent's University 1-15, c ne nw sect 42, blk 13, 1 1¾ mi nw ext.	12- 3-45	8715	8590-8650	Devonian li; Devo	F 1427; ½"	45	1

Table continued on page 238





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Producing Wells and Production In U. S. Oil Fields

IN THIS feature of the Yearbook-Forecast number are presented salient data on current and cumulative production in U. S. oil fields, together with figures on producing oil wells.

Figures include data on wells yielding condensate, as well as those producing crude oil. An idea of the relative importance that condensate has assumed is given by the fact that Texas in 1945 produced approximately 5,100,000 barrels of condensate and at the end of the year had about 885 condensate wells producing 12,750 barrels daily, with all districts of the state represented, although the condensate wells were mainly in Eastern Texas, the Gulf Coast, and Southwest Texas. Louisiana also has important condensate production, but data are included along with crude oil, and separation is not here available.

It may be noted that production figures as given immediately below in the "United States Summary" differ slightly from those in the table in this issue on production by states, by years. This difference is explained by the fact that figures given below by individual fields are from private sources and from state conservation agencies, while the other table mentioned is based on figures of the U. S. Bureau of Mines.

In addition to the U. S. Summary below, there are summaries for some of the larger producing states by districts at the beginning of those states, which include California, Illinois, Louisiana, New Mexico, Oklahoma, and Texas.

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
U. S. SUMMARY							
Alabama	1944	.....	27	27	695	244,054	298,582
Arkansas	1920	507	2,766	3,273	102,663	28,409,385	665,524,430
California	1876	1,889	19,857	21,746	843,979	326,488,041	7,009,952,633
Colorado	1887	70	173	243	22,314	5,205,577	55,056,939
Florida	1943	.....	2	2	75	27,180	43,050
Illinois	1889	205	27,710	27,915	204,595	73,460,265	1,165,268,886
Indiana	1889	.....	2,379	2,379	12,987	4,732,955	160,301,423
Kansas	1889	174	26,518	26,692	251,200	96,496,145	1,567,332,808
Kentucky	1860	.....	14,741	14,741	31,105	10,366,730	204,335,483
Louisiana	1902	3,343	4,467	7,810	371,848	132,983,814	1,707,256,099
Michigan	1900	350	3,184	3,534	49,093	17,175,152	239,779,403
Mississippi	1933	205	437	642	54,245	19,094,025	103,015,853
Missouri	1889	.....	36	36	130	44,000	337,000
Montana	1916	31	2,411	2,442	24,138	8,408,715	122,874,643
Nebraska	1939	.....	70	70	750	317,915	4,921,864
New Mexico	1913	2,822	1,542	4,364	98,725	37,311,639	460,556,513
New York	1864	.....	21,625	21,625	12,625	4,647,000	154,196,000
Ohio	1860	46	23,029	23,075	7,600	2,835,000	604,524,000
Oklahoma	1891	1,337	51,362	52,699	385,600	139,379,297	5,452,304,339
Pennsylvania	1859	.....	83,230	83,230	34,125	12,522,000	1,063,584,000
Tennessee	1876	.....	24	24	35	12,000	460,000
Texas	1896	37,914	65,699	103,-613	1,916,-991	749,699,966	9,720,614,715
Utah	1912	.....	.....	.....	.....	.....	205,300
West Virginia	1860	.....	17,268	17,268	7,400	2,862,000	427,058,000
Wyoming	1894	195	3,788	3,983	86,103	36,318,960	667,880,695
Total United States	1859	49,088	372,-345	421,-433	4,519,-021	1,709,041,-815	31,557,682,-660
ALABAMA							
Gilbertown, *Choctaw*	1944	.....	23	23	650	241,048	295,216
Gilbertown, E., *Choctaw*	1945	.....	4	4	45	3,006	3,006
Melvin, *Choctaw*	1944	.....	.....	.....	.....	.....	360
Total Alabama	....	.....	27	27	695	244,054	298,582
ARKANSAS							
(Data from Arkansas Oil and Gas Commission; Dec., 1945 Production estimated.)							
Atlanta, *Columbia*	1938	44	5	49	3,668	1,339,162	6,320,004
Limestone	1938	43	5	48	3,623	1,322,524	6,257,220
Cotton Valley	1943	1	.....	1	45	16,638	62,784
Big Creek, *Columbia*	1939	1	.....	1	26	9,662	164,186
Bradley, *Lafayette*	1925	.....	.....	.....	.....	.....	186,705
Buckner, *Columbia-Lafayette*	1937	1	26	27	1,704	621,904	5,343,906
Calhoun, *Columbia*	1944	3	1	4	177	64,577	97,988
Camden, *Ouachita*	1934	.....	.....	.....	.....	.....	37,848
Champagnolle, *Union*	1927	.....	70	70	679	247,989	15,910,184
Columbia, *Columbia*	1942	.....	.....	.....	.....	.....	9,529
Dorcheat-Macedonia, *Columbia*	....	149	.....	149	4,827	1,761,632	8,021,661
Sandstone Gas	1942	56	.....	56	776	283,217	1,276,680
Sandstone Oil	1943	35	.....	35	2,290	835,752	1,972,031
Limestone Gas	1939	58	.....	58	1,761	642,663	4,772,950

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
ARKANSAS—Continued							
El Dorado, East, *Union*	1921	.....	60	60	348	126,946	10,015,639
El Dorado, South, *Union*	1920	.....	102	102	819	299,069	49,642,019
Fouke, *Miller*	1940	5	39	44	2,402	876,593	2,482,690
Garland City, *Miller*	1932	.....	8	8	119	43,433	2,264,441
Gum Creek, *Ouachita*	1944	4	.....	4	30	11,202	25,650
Hampton, *Calhoun*	1943	.....	2	2	13	4,431	13,560
Hillsboro, *Union*	1939	.....	44	44	230	74,252	272,071
Hibanks, *Union*	1942	.....	1	1	2	854	1,242
Haynesville, *Columbia*	1942	30	2	32	1,999	729,519	1,475,746
Irma-Troy, *Nevada*	1921	.....	126	126	1,322	482,556	11,129,796
Lewisville, *Lafayette*	1939	.....	17	17	101	36,764	677,011
Lisbon, *Union*	1925	.....	131	131	132	48,189	6,974,034
Magnolia, *Columbia*	....	104	8	112	13,614	4,969,187	41,276,639
Limestone	1938	104	7	111	13,606	4,966,029	41,244,502
Cotton Valley	1943	.....	1	1	8	3,158	32,137
McKamie, *Lafayette*	....	20	.....	20	3,020	1,102,306	4,265,311
Limestone	1940	20	.....	20	3,020	1,102,306	4,232,107
Cotton Valley	1942	.....	.....	abn'd	.....	.....	33,204
Midway, *Lafayette*	1942	35	5	40	7,219	2,635,070	8,404,010
Mt. Holly, *Ouchita*	1929	.....	.....	.....	.....	.....	117,085
Mt. Holly, *Union*	....	4	8	12	733	267,425	940,291
Limestone	1941	4	7	11	724	264,406	924,909
Cotton Valley	1943	.....	1	1	9	3,019	15,382
New London, *Union*	1942	4	13	17	1,021	372,580	1,250,147
Nick Springs, *Union*	1940	.....	6	6	74	27,158	741,807
Nick Springs-Cotton Valley, *Union*	1943	.....	.....	abn'd	.....	.....	6,017
North Rodessa Ext'n, *Miller*	1943	3	.....	3	69	25,088	39,445
Patton, *Lafayette*	1941	2	.....	2	154	56,182	121,725
Rodessa, *Miller*	1937	.....	54	54	540	196,952	7,213,892
Salem Church, *Union*	1944	.....	.....	.....	.....	370	6,815
Schuler, *Union*	....	70	26	96	13,250	4,834,920	47,963,501
Cotton Valley	1942	24	.....	24	1,634	596,420	1,804,828
East	1941	1	5	6	440	158,794	773,967
Jones Sand (95 flowing wells shut in; not incl. here)	1937	36	6	42	9,008	3,288,243	36,369,080
Morgan Sand	1937	.....	13	13	686	250,485	3,123,468
Reynolds Lime	1937	9	2	11	1,482	540,978	5,892,158
Smackover, *Union and Ouachita*	1922	.....	1,581	1,581	10,445	3,812,706	406,443,375
Stephens (Old), *Ouachita and Columbia*	1922	.....	224	224	573	209,206	7,452,683
Stephens-Smart, *Columbia, Ouachita and Nevada*	1941	.....	119	119	4,891	1,785,260	5,358,785
Stephens-North, *Nevada*	1945	.....	7	7	36	13,231	13,231
Stephens-James Lime, *Ouachita*	1945	.....	5	5	103	37,771	37,771
Strong-Limestone, *Union*	1944	.....	1	1	68	24,752	25,106
Strong-Sandstone, *Union*	1945	.....	1	1	9	3,185	3,185
Texarkana, *Miller*	1942	.....	.....	.....	.....	.....	33,300
Urbana, *Union*	1929	.....	65	65	1,105	403,171	8,794,068
Village, *Columbia*	1938	25	.....	25	2,221	810,696	3,391,380
Wilmington, *Union*	1943	.....	2	2	51	18,663	30,325
Wilks, *Union*	1944	.....	.....	abn'd	.....	.....	10,075
Wesson, *Ouachita*	1945	3	.....	3	45	16,383	16,383
Woodley (Grimes), *Union*	1922	.....	7	7	23	8,389	502,378
Total Arkansas (See note for Schuler-Jones field)	....	507	2,766	3,273	102,663	28,409,385	665,524,430

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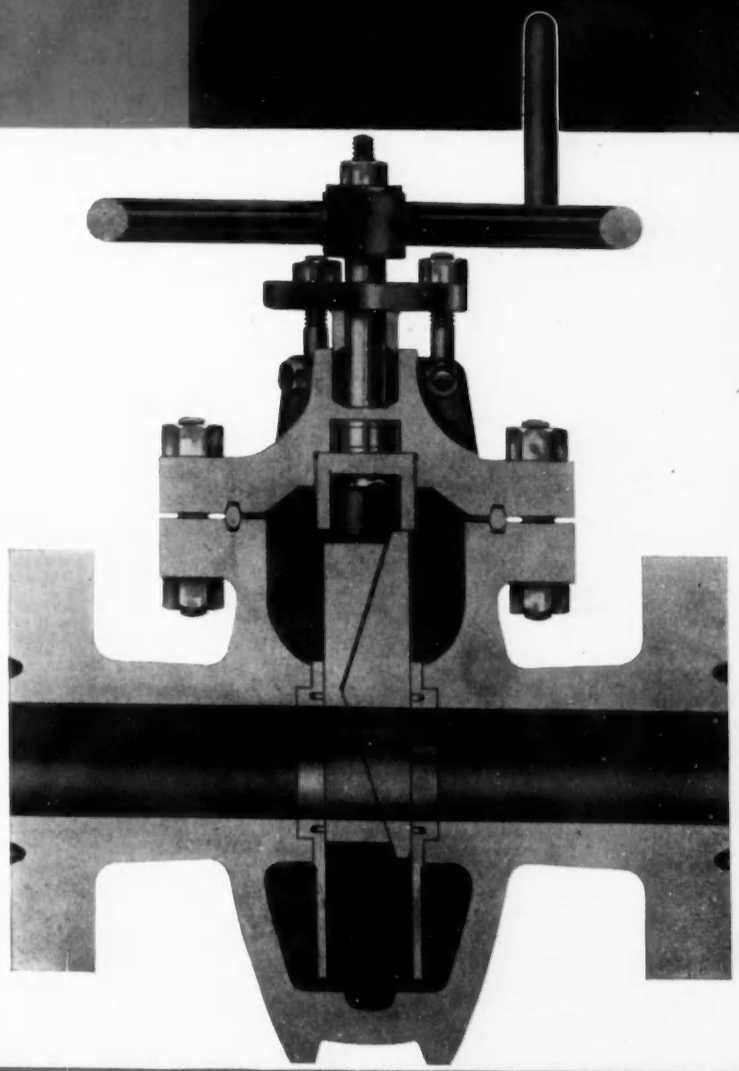

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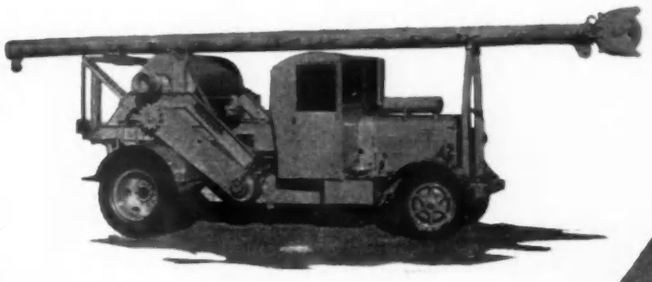
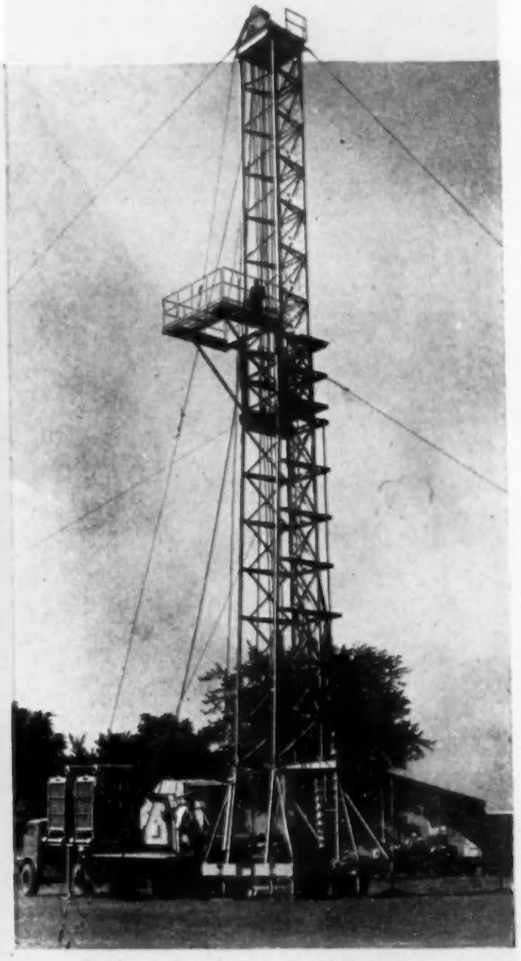
Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
CALIFORNIA							
California Summary—							
San Joaquin Valley	....	1,083	11,154	12,237	399,537	160,957,456	3,011,992,980
Coastal District	....	430	1,681	2,111	143,845	53,810,01	7,758,706,438
Los Angeles Basin	....	376	7,022	7,398	300,597	111,720,568	3,238,142,879
Unclassified	....	.....	.....	.....	.....	.....	1,110,336
Total California	....	1,889	19,857	21,746	843,979	326,488,041	7,009,952,633
California's San Joaquin Valley							
Ant Hill (Incl. W. Kern River Prior to 1945), *Kern*	1944	.....	19	19	772	203,368	203,368
Antelope Hills, *Kern*	1942	.....	31	31	1,699	648,086	2,217,185
Arvin, *Kern*	1939	.....	2	2	41	13,857	1,611,845
Bellevue	1944	2	1	3	445	191,623	352,598
Belridge, N., *Kern*	1912	42	22	64	5,186	2,313,823	52,609,059
Belridge, S., *Kern*	1911	.....	770	770	10,604	4,629,520	35,121,980
Blackwells Corner, *Kern*	1941	.....	15	15	107	48,184	48,184
Brundage	1944	.....	.....	.....	.....	1,968	1,968
Buena Vista Hills, *Kern*	1909	140	836	976	39,926	15,771,357	314,941,659
Burrel, *Fresno*	1943	.....	1	1	14	11,861	25,343
Canal, *Kern*	1937	20	11	31	3,023	1,250,612	11,647,750
Canfield Ranch, *Kern*	1938	.....	3	3	32	13,315	143,269
Coalinga, *Kern*	.....	.....	.....	.....	.....	.....	.....
Coalinga, East	1900	.....	577	577	18,525	7,566,934	249,439,285
Coalinga, Nose & N.E.	1938	180	26	206	55,554	21,349,524	98,390,346
Coalinga, West	1900	.....	728	728	7,163	2,881,770	156,226,963
Cole's Levee, *Kern*	1938	117	1	118	22,614	6,965,872	33,844,735
Dyer Creek, *Kern*	1941	.....	.....	.....	.....	.....	27,755
Edison, *Kern*	1934	19	143	162	10,772	2,162,588	13,671,050
Elk Hills, *Kern*	1919	.....	239	239	14,408	15,809,776	191,060,721
Fruitvale, *Kern*	1928	.....	188	188	8,479	3,109,818	35,759,029
Gosford, *Kern*	1944	.....	2	2	163	42,259	53,935
Greeley, *Kern*	1936	68	29	97	11,196	5,074,440	24,157,819
Helm, *Kern*	1941	30	9	39	3,405	1,166,720	1,914,345
Jacalitos, *Kern*	1941	18	30	48	3,625	1,156,428	1,570,718
Kern Front, *Kern*	1925	.....	578	578	10,840	4,541,055	63,590,989
Kern River, *Kern*	1900	.....	2,199	2,199	9,362	3,542,449	294,589,971
Kettleman Middle Dome, *Kings*	1932	.....	.....	.....	.....	.....	544,491
Kettleman, North Dome, *Kern-Fresno*	1928	90	190	280	38,314	14,366,275	310,068,820
Lanare, *Fresno*	1942	6	5	11	944	179,233	246,764
Lost Hills, *Kern*	1910	.....	378	378	3,430	1,226,426	56,741,933
McClung, *Kern*	1943	.....	1	1	39	23,925	90,270
McKittrick, *Kern*	1898	.....	349	349	7,503	2,029,491	99,791,545
Midway-Sunset, *Kern*	1900	.....	2,757	2,757	38,887	14,418,492	688,481,880
Mountain View, *Kern*	1933	.....	131	131	2,721	1,019,933	45,139,360
Mount Poso, *Kern*	1927	.....	480	480	17,090	6,691,929	86,028,081
Paloma, Crude and Condensate, *Kern*	1939	26	.....	26	4,996	849,418	2,856,155
Pleasant Valley, *Fresno*	1943	17	3	20	3,658	1,315,214	2,485,521
Pyramid Hills, *Kings*	1940	.....	25	25	370	139,095	139,095
Race Track, *Kern*	1944	7	4	11	961	211,865	211,865
Raisin City, *Fresno*	1941	26	5	31	2,881	1,171,212	2,857,293
Rio Bravo, *Kern*	1937	95	.....	95	13,176	5,735,680	33,465,440
Riverdale, *Kern*	1941	48	2	50	3,759	1,564,700	3,766,874
Rosedale Ranch, *Kern*	1945	.....	4	4	126	31,582	31,582
Round Mountain, *Kern*	1927	.....	257	257	7,984	3,426,496	46,623,499
Santiago, *Kern*	1945	4	.....	4	818	105,930	105,930
Shafter, *Kern*	1941	.....	.....	.....	.....	190	52,703
Sheep Springs, *Kern*	1944	1	4	5	571	203,058	203,058
Strand, E., *Kern*	1942	.....	7	7	645	270,057	548,627
Strand, W., *Kern*	1943	12	5	17	1,649	568,079	3,432,100
Tejon, *Kern*	1943	.....	17	17	468	161,320	225,270
Ten Section, *Kern*	1936	110	10	120	9,429	4,117,031	35,694,007
Union Avenue, *Kern*	1941	.....	2	2	86	35,982	230,927
Wasco, *Kern*	1938	5	5	10	797	495,684	4,284,160
Wheeler Ridge, *Kern*	1923	.....	34	34	234	86,215	4,291,968
Unclassified Fields	.....	.....	19	19	46	9,737	131,893
Total San Joaquin Valley	1896	1,083	11,154	12,237	399,537	160,957,456	3,011,992,980
California Coastal District							
Aliso, Canyon, *Los Angeles*	1938	17	14	31	3,242	1,164,813	3,735,172
Bradley Canyon, *Santa Barbara*	1945	.....	.....	.....	.....	17,058	17,058
Capitan, *Santa Barbara*	1929	3	.....	3	75	667,828	9,416,634
Del Valle (for Ventura Co. part of field see San Martinez), *Los Angeles*	1940	16	3	19	1,889	746,853	2,095,964
Elwood Goleta, *San Barbara*	1927	3	60	63	5,926	2,174,549	75,303,095
Gato Ridge, *Santa Barbara*	1931	1	31	32	3,948	1,609,021	5,897,366
Hasley Canyon, *Ventura*	1945	.....	.....	.....	.....	332	332
Newhall Potrero, *Ventura*	1937	40	1	41	6,208	2,006,962	7,167,182
Oak Canyon, *Los Angeles*	1941	11	5	16	1,901	748,587	1,600,816
Oxnard, *Ventura*	1937	.....	5	5	1,316	333,188	333,188
Padre Canyon, *Ventura*	1936	9	17	26	2,207	743,540	1,912,351
Ramona, *Ventura*	1945	3	2	5	256	65,452	65,452
Rincon, *Ventura*	1927	16	10	26	4,768	1,667,278	19,497,170
San Martinez, *Ventura*	1941	26	3	29	3,895	1,212,108	2,776,435
San Miguelito, *Ventura*	1931	26	9	35	4,800	1,937,096	14,445,107
Santa Barbara, *Santa Barbara*	1929	.....	14	14	105	33,761	3,634,522
Santa Maria-Lompoc (incl. all Santa Maria dist., except Santa Maria Valley, Bradley Canyon, Gato Ridge, Zaca Creek), *Santa Barbara*	1902	12	302	314	13,534	5,045,197	172,958,713
Santa Maria Valley, *Santa Barbara*	1940	31	374	405	35,501	13,563,444	53,779,287
Summerland, *Santa Barbara*	1894	.....	.....	.....	.....	668	3,183,875
Ventura Avenue, *Ventura*	1926	216	267	483	47,177	17,724,974	291,930,665
Ventura-Newhall (incl. fields in Santa Paula-Newhall district, except Del Valle, Newhall-Potrero, Oak Canyon, Hasley Canyon, Ramona, Oxnard), *Ventura*	1876	.....	543	543	6,833	2,293,059	88,503,432
Watsonville, *Ventura*	1923	.....	1	1	25	9,150	407,523
Zaca Creek, *Santa Barbara*	1942	.....	1	1	239	45,099	45,099
Other Coastal Counties	.....	.....	19	19	.....	.....	.....
Total Coastal District	....	430	1,681	2,111	143,845	53,810,017	758,706,438
California's Los Angeles Basin							
Brea-Olinda, *Orange*	1897	.....	330	330	10,790	4,193,505	185,515,240
Buena Park, *Orange*	1942	.....	2	2	84	38,611	162,166
Coyote, E., *Orange*	1934	.....	155	155	4,847	1,831,628	50,934,847
Coyote, W., *Orange*	1934	36	151	187	15,665	5,271,152	144,017,402
Dominguez, *Los Angeles*	1923	15	300	315	17,440	6,737,605	162,022,962
El Segundo, *Los Angeles*	1936	.....	33	33	964	293,771	11,560,689
Huntington Beach, *Orange*	1920	51	779	830	46,527	17,630,629	361,660,772
Inglewood, *Los Angeles*	1924	15	291	306	14,942	5,652,823	151,600,641
Lawndale, *Los Angeles*	1928	.....	2	2	16	8,436	1,161,654
Long Beach, *Los Angeles*	1921	.....	1,133	1,133	26,208	9,840,448	712,456,498
Los Angeles & Salt Lake, *Los Angeles*	1894	.....	91	91	513	181,341	67,074,042
Montebello, *Los Angeles*	1917	3	345	348	9,782	3,671,322	142,953,317
Newport-Costa Mesa, *Orange*	1925	.....	37	37	2,232	367,395	507,236
Playa del Rey, *Los Angeles*	1929	.....	118	118	2,394	908,243	52,161,688
Potrero, *Los Angeles*	1927	5	20	25	1,175	382,529	5,746,321
Richfield, *Orange*	1919	.....	307	307	7,249	2,724,300	106,403,609
Rosecrans, *Los Angeles*	1924	6	174	180	5,329	2,092,354	57,582,995
Sansinena, *Orange*	1945	.....	2	2	122	21,064	21,064
Santa Fe Springs, *Los Angeles*	1921	.....	548	548	16,685	6,274,748	502,837,123
Seal Beach, *Los Angeles*	1926	16	137	153	9,906	3,424,418	102,044,990
Torrance, *Los Angeles*	1922	.....	706	706	9,200	3,249,086	117,102,024
Turnbull, *Los Angeles*	1941	.....	9	9	156	65,044	396,162
Whitter, *Los Angeles*	1912	.....	159	159	987	367,460	19,865,686
Wilmington, *Los Angeles*	1937	229	1,182	1,411	97,384	36,340,876	281,596,756
Yorba Linda, *Los Angeles*	1942	.....	11	11	.....	151,780	756,995
Total Los Angeles Basin	....	376	7,022	7,398	300,597	111,720,568	3,238,142,879
COLORADO							
Berthoud, *Larimer*	1925	.....	1	1	7	2,578	68,715
Boulder, *Boulder*	1902	.....	3	3	20	7,300	671,431
Clarks Lake, *Larimer*	1944	.....	5	5	235	86,395	150,810
Florence, *Fremont*	1862	.....	71	71	130	46,074	13,883,367
Ft. Collins, *Larimer*	1923	.....	6	6	142	31,254	2,355,753
Greasewood, *Weld*	1930	.....	1	1	12	4,444	483,869
Hamilton (Moffat), *Moffat*	1923	.....	11	11	286	104,271	6,268,644
Hiawatha, *Moffat*	1929	.....	8	8	177	65,757	841,931
Iles, *Moffat*	1924	.....	26	26	1,222	428,114	10,982,878
McCallum, N. & S. and Walden, *Jackson*	1927	5	.....	5	667	162,979	304,680
Powder Wash, *Moffat*	1936	.....	6	6	111	69,891	233,390
Price, *Arhuleta*	1934	.....	9	9	600	442,250	2,495,695
Rangely, *Rio Blanco*	1919	45	.....	54	12,254	1,592,590	3,519,160
Tow Creek, *Routt*	1924	.....	5	5	118	40,025	1,915,150
Wellington, *Larimer*	1924	.....	10	10	252	52,056	5,212,088
Wilson Creek, *Rio Blanco*	1938	11	11	22	6,081	2,069,599	5,669,378
Total Colorado	....	70	173	243	22,314	5,205,577	55,056,939
FLORIDA							
Sunniland, *Collier*	1943	.....	2	2	75	27,180	43,050
Total Florida	1943	.....	2	2	75	27,180	43,050
ILLINOIS							
Illinois Summary—							
S.E. Illinois Stripper Area	1904	.....	12,937	12,937	10,075	3,641,605	448,626,929
N.W. Illinois Stripper Area	1914	.....	307	307	270	95,630	3,183,620
Illinois Basin Old Pools	1879	.....	355	355	550	191,990	12,894,122
Illinois Basin New Pools (Flowing wells estimated)	1937	205	14,111	14,316	193,700	69,531,040	700,564,215
Total Illinois (flowing wells estimated)	1879	205	27,710	27,915	204,595	73,460,265	1,165,268,886
Southeastern Illinois (Stripper Area)							
Edgar, Clark, Coles, Crawford, Cumberland, Jasper, Lawrence, Wabash, Counties	1904	.....	12,937	12,937	10,075	3,641,605	448,626,929



Mobilhoist — Rotary drilling to 1,500 feet, servicing to 4,000 feet, drilling-in or workover with cable tools to 3,500 feet.



Trailer-mounted Caravan rig for rotary drilling to 5,500 feet, or workover jobs to 10,000 feet.

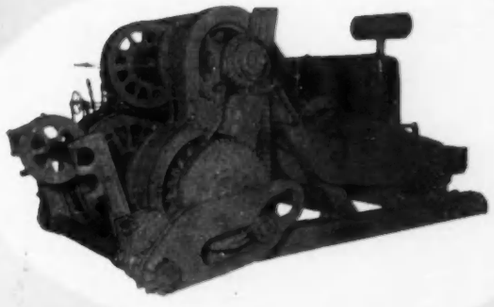
This is the plant and equipment our customers have helped us build during the past twenty years. The confidence of our friends in purchasing "Cardwell" equipment, and their tolerance in helping us correct our mistakes, has been a source of pride to us.

Our prime objective is to build drilling and servicing rigs that will outperform and outlast any in the field. We have spared no expense to build equipment that will not wear out — and from the service records of some of our rigs, it seems that we are approaching our objective.

An important part of our organization not shown is the strategically located parts stores. These stores, and others scheduled, will make replacement parts quickly available the world over. These permanent stores and our modern manufacturing plant, tooled for efficiency and low-cost parts, furnish values measured only by years of rig use without down-time. We have always been alive to our responsibility of building equipment so the owner can make a profit.

We wish to thank our friends in the oil industry who have made our twenty years of progress possible, and pledge to them and to new purchasers that our policies, equipment and service will warrant their continued confidence.

Model H, K or R rotary or cable tool (spudder or beam) drilling rig — Rotary drilling to 5,000 feet, cable tool to 7,500 feet and servicing to 10,000 feet.



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Wichita, Kansas, U. S. A

"CARDWELL" RIGS ARE STRONGER, WEAR LONGER AND WEIGH LESS

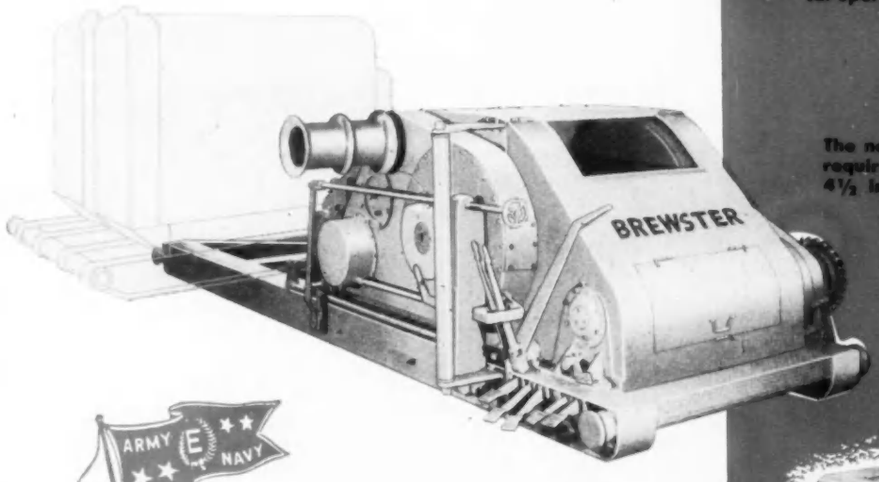
Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
ILLINOIS—Continued							
Northwestern Illinois (Stripper Area)							
Colmar-Plymouth, McDonough-Hancock Counties	1914		307	307	270	95,630	3,183,620
Illinois Basin Old Pools							
Bartelso, *Clinton*	1936		43	43	140	52,195	1,464,925
Carlyle, *Clinton*	1911		108	108	103	33,580	3,544,958
Collinsville, *Madison*	1909						850
Junction City, *Marion*	1910		4	4			
Sandoval, *Marion*	1909		74	74	30	10,950	5,059,930
Wamac, *Marion*	1921		50	50	30	13,140	494,218
Litchfield, *Montgomery*	1879						22,800
Waterloo, *Monroe*	1920						224,000
Jacksonville Gas, *Morgan*	1910						2,000
Dupo, *St. Clair*	1928		76	76	245	82,125	2,080,441
Total Illinois Basin Old Pools	1879		355	355	550	191,990	12,894,122
Illinois Basin New Pools							
Beaver Creek, *Bond*	1942			8	33	15,330	41,892
Woburn, *Bond*	1940			25	108	37,230	485,115
Bible Grove, *Clay*	1942			167	5,600	1,748,715	3,822,394
Bible Grove, East, *Clay*	1944			3	55	29,565	29,565
Bible Grove, S., *Clay*	1942			1	18	8,395	35,953
Iola, *Clay*	1939			103	1,795	723,795	2,845,844
Ingraham, *Clay*	1942			abn'd			323
Passport, *Clay*	1945			4	120	41,245	41,245
Sailor Springs, *Clay*	1941			103	1,510	512,460	2,244,190
Sailor Springs, *Clay*	1944			7	38	18,615	28,597
Toliver, *Clay*	1942			1			6,145
Boulder, *Clinton*	1942			31	1,450	516,840	2,057,603
Hoffman, *Clinton*	1939			39	104	37,595	516,140
Bartelso (Devonian), *Clinton*				23	170	63,145	717,851
Posey, *Clinton*	1941			1		365	5,193
Mattoon, *Coles*	1940			65	6,500	423,035	479,337
New Bellair, *Crawford*	1942			abn'd			6,945
Albion, *Edwards*	1940			195	3,510	1,233,700	4,835,599
Bennington, S., *Edwards*	1944			1	5	4,380	10,676
Ellery, *Edwards*	1941			2	20	6,570	43,677
Maple Grove, *Edwards*	1943			19	368	155,490	693,013
Maple Grove, E., *Edwards*	1944			3	6	5,110	15,735
Louden, *Fayette*	1937			1,940	24,625	9,462,625	121,283,314
St. James, *Fayette*	1938			186	2,035	796,065	8,528,034
St. Paul, *Fayette*	1941			13	135	50,370	290,973
Akin, *Franklin*	1941			7	120	43,435	251,627
Benton, *Franklin*	1941			231	2,940	1,159,240	17,848,125
Sesser, *Franklin*	1942			5	37	17,520	66,086
Thompsonville, *Franklin*	1940			6	40	22,265	325,159
Inman, *Gallatin*	1940			2	23	8,395	75,541
Inman, E., *Gallatin*	1940			99	1,220	524,870	3,058,929
Inman, N., *Gallatin*	1941			abn'd			9,302
Inman, W., *Gallatin*	1942			20	155	64,605	389,016
Junction, *Gallatin*	1939			15	37	14,600	225,875
New Haven, W., *Gallatin*	1944			15	370	144,540	198,264
Belle Prairie, S. E., *Hamilton*	1941			4	155	63,875	177,687
Blairsville, *Hamilton*	1942			29	525	209,510	1,268,357
Bungay, *Hamilton*	1941			40	1,220	533,630	1,276,743
Dahlgren, *Hamilton*	1941			28	108	35,405	933,246
Dale-Hoodville, *Hamilton*	1941			409	4,720	2,022,100	21,243,669
Rural Hill, *Hamilton*	1941			197	1,625	678,900	8,731,044
Thackery, *Hamilton*	1944			35	2,320	524,870	529,386
Walpole, *Hamilton*	1941			66	1,320	546,290	3,063,745
Elkville, *Jackson*	1941			1	5	730	3,015
Boos, N., *Jasper*	1940			77	875	210,970	2,682,825
Hidalgo, *Jasper*	1940			abn'd			9,976
Boyd, *Jefferson*	1944			83	4,925	1,371,670	1,518,845
Divide, W., *Jefferson*	1944			40	3,050	959,585	1,025,363
Dix, *Jefferson*	1938			80	1,125	460,630	4,517,700
King, *Jefferson*	1942			27	345	169,360	642,444
Markham City, *Jefferson*	1942			18	215	102,930	838,450
Roaches, *Jefferson*	1938			10	85	28,835	502,807
Roaches, N., *Jefferson*				34	805	377,410	531,999
Woodlawn, *Jefferson*	1940			142	2,150	949,730	8,918,094
Marine, *Madison*	1943			55	2,450	798,620	1,295,076
St. Jacob, *Madison*	1940			22	360	159,870	643,352
St. Jacob, S., *Madison*	1942			27	505	190,530	802,046
Alma, *Marion*	1941			3	12	6,935	53,861
Centralia, *Marion*	1937			616	4,625	1,729,005	27,643,561
Fairman, *Marion*	1939			28	230	96,725	1,098,984
Odin, *Marion*	1945			20	790	94,900	94,900
Patoka, *Marion*	1937			123	3,950	1,302,685	5,088,396
Patoka, E., *Marion*	1937			56	705	271,560	2,445,795
Salem, *Marion*	1938			2,407	16,950	6,637,160	192,194,100
Sandoval (Devonian), *Marion*	1938			24	218	77,745	2,535,921
Tonti, *Marion*	1939			63	1,145	467,200	7,308,579
Tamaroa, *Perry*	1942			4	10	1,825	8,627
Amity, *Richland*	1942			1		1,460	7,281
Bompas, *Richland*	1941			2	22	10,585	87,310
Calhoun, *Richland*	1944			29	3,250	497,495	569,655
Dundas Consolidated, *Richland*	1939			374	2,050	873,080	15,153,602
Noble, *Richland*	1937			269	7,425	2,738,230	19,671,853
Noble, S., *Richland*	1937			10	72	28,835	552,147
Olney, *Richland*	1937			34	205	91,250	1,571,951
Parkersburg, *Richland*	1941			55	1,515	393,835	3,739,361
Parkersburg, W., *Richland*	1943			3	32	17,520	52,084
Lakewood, *Shelby*	1941			2	10	6,205	36,159
Allendale, *Wabash*	1941			150	1,220	516,840	2,342,668
Friendville, *Wabash*	1942			31	340	127,020	444,094
Keensburg, *Wabash*	1939			321	1,960	756,645	10,474,457
Lancaster, *Wabash*	1940			73	1,385	595,315	1,530,804
Lancaster, W., *Wabash*	1943			5	75	25,915	102,244
Maud, *Wabash*	1940			15	60	24,820	403,007
Mt. Carmel, *Wabash*	1940			330	2,180	921,260	5,881,321
Patton, W., *Wabash*	1943			25	210	93,805	189,042
Cordes, *Washington*	1939			133	740	288,350	3,167,507
Dubois, W., *Washington*	1942			8	22	14,235	134,066
Irvington, *Washington*	1940			87	945	355,145	3,608,846
Aden, *Wayne*	1938			86	880	371,570	4,735,141
Barnhill, *Wayne*	1939			56	260	82,855	1,865,689
Boyleston, *Wayne*	1938			103	790	297,840	4,310,316
Cisne, N., *Wayne*	1937			48	365	116,800	3,041,275
Clay City, Cons., *Wayne*	1937			1,020	13,750	5,104,160	41,861,365
Coil, *Wayne*	1942			16	295	117,165	895,460
Coil, W., *Wayne*	1942			11	295	111,325	241,022
Covington, *Wayne*	1942			52	675	268,640	2,877,140
Geff, *Wayne*	1941			27	450	185,785	837,874
Geff, W., *Wayne*	1942			4	45	13,505	60,174
Goldengate, *Wayne*	1941			33	770	282,875	1,125,491
Johnsonville, *Wayne*	1941			245	3,025	1,109,235	15,467,681
Johnsonville, S., *Wayne*	1942			2	10	2,190	14,985
Johnsonville, W., *Wayne*	1943			1		1,460	4,828
Mt. Erie, S., *Wayne*	1942			8	125	47,815	165,672
Mayberry, *Wayne*	1941			5	80	29,565	224,980
Sims, *Wayne*	1941			64	805	312,805	3,318,580
Brownsville, *White*	1945			25	1,700	161,695	161,695
Burnt Prairie, *White*	1940			31	600	237,980	787,888
Carmi, N., *White*	1942			3	42	18,250	83,442
Centerville, *White*	1940			5	55	25,915	248,217
Epworth, *White*	1941			8	70	29,930	227,597
Grayville, S., *White*	1941			16	145	71,175	309,738
Herald, *White*	1940			41	950	185,055	380,778
Herald, W., *White*	1942			1	9	3,285	11,424
Iron, *White*	1940			59	390	170,455	3,107,858
Maunie, *White*	1941			2	16	6,935	35,215
Mill Shoals, *White*	1939			121	860	340,545	3,794,161
New Harmony, Cons., *White*	1939			738	9,375	3,429,175	32,152,374
New Haven, *White*	1941			23	145	46,355	501,814
Phillipstown, *White*	1939			162	3,300	1,244,285	3,963,225
Roland, *White*	1940			156	2,350	936,225	5,861,839
Stokes, *White*	1939			49	745	279,590	1,872,258
Storms, *White*	1939			141	720	274,480	4,745,406
Total Above Pools				13,427	178,480	63,284,065	680,153,932
Unclassified, Basin New Pools				889	15,220	6,246,975	20,410,283
Total Illinois Basin New Pools (flowing wells est.)	1937	205	14,111	14,316	193,700	69,531,040	700,564,215
INDIANA							
New Development							
Griffin, *Gibson-Posey*	1938		447	447	4,490	1,697,980	19,082,376
Columbia, *Gibson*	1943		4	4	4	1,460	7,188
Fleener, *Gibson*	1940			abn'd			4,543
Francisco, *Gibson*			8	8	10	6,570	108,151
Hazelton, *Gibson*	1941		29	29	115	59,130	503,794
Johnson, *Gibson*	1941		1	1	4	1,095	9,310
Kirksville, *Gibson*	1941		26	26	175	63,510	249,612
Mt. Carmel, *Gibson*	1941		1	1	6	2,555	13,033
Mt. Carmel, N., *Knox*	1943		3	3	15	5,475	21,364
Owensville, N., *Gibson*	1943		32	32	465	178,120	453,407
Owensville, S., *Gibson*	1944		3	3	28	18,980	32,617
Patoka, *Gibson*	1941			abn'd			4,925
Simpson, *Gibson*	1940			abn'd			5,204
Somerville, *Gibson*	1944		2	2	5	2,190	10,445
Wheeling, *Gibson*	1943		24	24	305	56,575	91,967
Decker, *Knox*	1944		3	3	128	27,740	32,913
St. Francisville, *Knox*	1942		1	1	3	730	2,255
St. Francisville, E., *Knox*	1943		3	3	12	2,555	16,792
St. Thomas, *Knox*	1940		5	5	8	4,015	80,749
Spurgeon, *Pike*	1941		2	2	18	5,840	39,902
Bufkin, *Posey*	1940		10	10	63	25,550	183,277
Caborn, *Posey*	1940		35	35	340	136,510	875,033
Caborn, W., *Posey*	1941		5	5	18	6,935	49,830
College, *Posey*	1940		5	5	16	9,125	116,064
Crunk, *Posey*	1945		1	1	8	2,190	2,190
Farmersville, *Posey*	1945		3	3	20	2,920	2,920
Grafton, *Posey*	1942			abn'd			637
Half Moon, *Posey*	1942		1	1	6	2,190	11,058
Heusler, *Posey-Vanderburg*	1938		48	48	305	122,640	1,354,513
Hovey Lake, *Posey*	1942		1	1	2	365	5,523
Hovey Lake, W., *Posey*	1944		1	1	6	2,555	4,044
Inman, E., *Posey*	1943		23	23	710	272,290	425,336
Jeffries, *Posey*	1945		2	2	42	5,840	5,840
Lamontt, *Posey*	1941		5	5	28	9,855	56,664
Mt. Vernon, *Posey*	1941		26	26	950	396,025	1,987,140
Mumford, *Posey*	1939		6	6	55	16,425	155,098
New Harmony, *Posey*	1939		31	31	795	293,460	2,891,837
New Harmony, S., *Posey*	1944		13	13	725	168,630	235,001
New Haven, *Posey*	1942		1	1	3	1,095	21,506
Point, *Posey*	1942		1	1	10	3,285	34,257
Prairie, *Posey*	1942		1	1		13,140	24,390

BREWSTER BUILDS "THE WORKS"

34 Years Experience in Making Better Oil Field Equipment

. . . thoroughly fits The Brewster Co. to make drilling equipment to meet your requirements. The design of each product—from draw works to crown block—is based on field experience. Only the best tested and proven materials are used in our two modern plants where skilled workmen earned five Army-Navy war production awards.

Write or wire now or see the composite catalog for detailed information on Brewster products—backed by 34 years of experience.



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For 34 years makers of Fine Oil Field Equipment

SHREVEPORT, LOUISIANA

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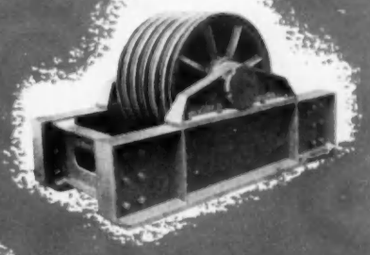
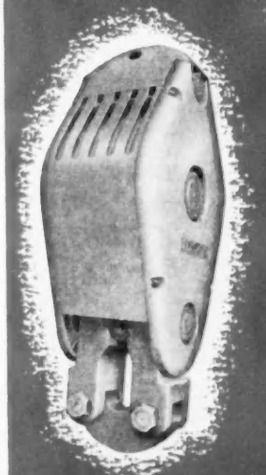


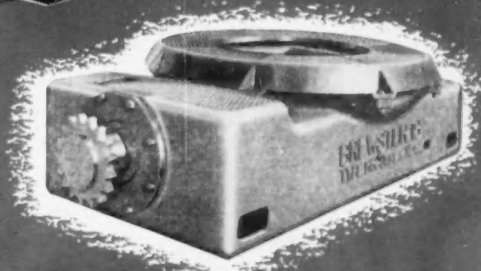
Crown Blocks have tapered roller bearings individually lubricated on each sheave. Friction is reduced—more power goes into pull.



Traveling Blocks with smooth design, low center of gravity and better balance have safer, straight line travel.

Roller bearings operating in an Oil Bath enable our five sizes of Swivels to give continuous, economical operation.

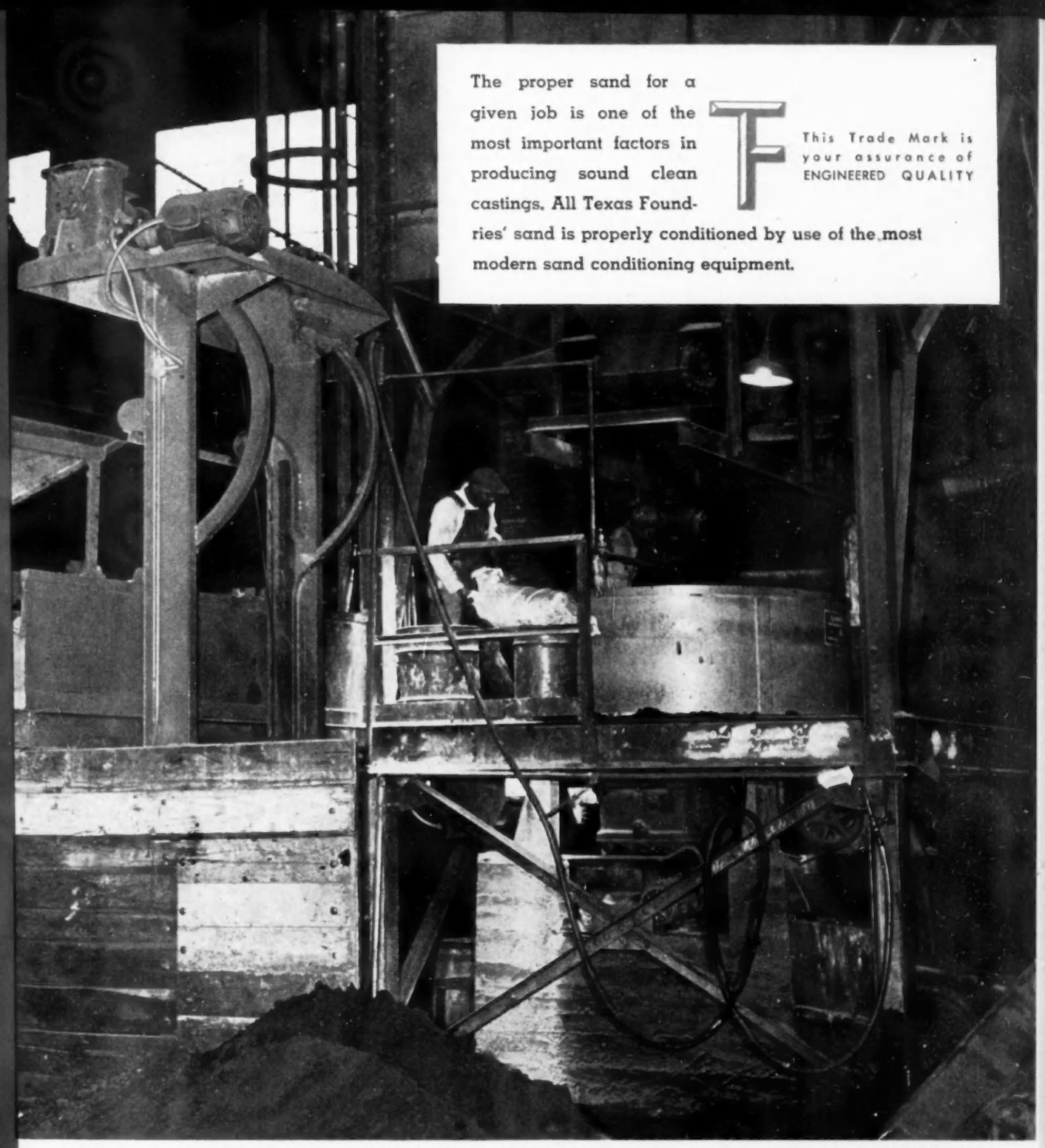
The new N-6 Drilling Rig is built to meet all requirements for wells to 7,000 feet using 4½ inch pipe. All drives and rotating parts except catheads are completely enclosed. The water cooled brakes—9 in. x 48 in.—are equalized and self-energized for easy, positive action. Write now for further details on the modern, dependable N-6 Rig and other Brewster rigs.



Six sizes of Oil Bath Rotaries permit an economical choice to meet every drilling requirement.

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
INDIANA—Continued							
Ridge, *Posey*	1942			abn'd		365	3,806
Rogers, *Posey*	1943			abn'd			5,706
Rogers, E., *Posey*	1943		3	3	48	17,155	35,253
Stooker, *Posey*	1942		1	1	20	7,300	40,405
St. Wendell, E., *Posey*	1945		1	1	3	730	730
Upton, *Posey*	1944		15	15	650	235,790	343,598
Wellborn, *Posey*	1941		2	2	22	6,205	23,817
Eureka, *Spencer*	1942		1	1			3,157
Balance, *Spencer*			54	54	210	74,460	143,268
Dodds Ridge, *Sullivan*	1942		6	6	190	74,825	343,325
Vaughn, *Vanderburg*	1942			abn'd			1,219
Veron Heights, *Vanderburg*	1941		18	18	115	44,165	203,889
Prairie Creek, *Vigo*	1937		13	13	125	52,195	805,722
Millersburg, *Warrick*	1941			abn'd			2,748
Total New Development			927	927	11,276	4,138,735	31,169,348
Old Development							
Bristow, *Perry*	1929		42	42	18	7,665	104,109
Canfield, *Cannelsburg*, Princeton and Oakland, *Daviess, Pike*	1907		520	520	880	310,615	14,807,647
Shelburn, *Sullivan*	1911		336	336	365	112,785	3,936,876
Sioni, *Sullivan, Vigo*	1926		42	42	275	105,120	2,985,272
Troy, *Spencer*							1,127,172
St. Wendells, *Posey-Vanderburg*			64	64	108	42,340	892,819
Total Old Development			1,004	1,004	1,646	578,525	21,853,895
Total Above Fields			1,931	1,931	12,922	4,717,260	53,023,243
Miscellaneous other Prod			448	448	65	15,695	107,278,180
Total, Indiana			2,379	2,379	12,987	4,732,955	160,301,423
KANSAS							
Whelan, *Barber*	1934		19	19	535	214,620	1,345,085
Albert, *Barton*	1935		21	21	345	119,720	1,218,947
Beaver, *Barton*	1934		23	23	358	139,430	1,680,951
Bloomer, *Barton*	1936		262	262	7,750	2,901,750	21,610,511
Boyd, *Barton*	1942		30	30	865	299,665	419,618
Carroll, *Barton*	1945		6	6	240	39,420	39,420
Eberhart, *Barton*	1935		4	4	70	22,995	263,963
Hiss, *Barton*	1936	3	8	11	295	100,010	514,773
Kraft-Prusa, *Barton*	1937		430	430	12,250	4,589,510	19,537,546
Lanterman, *Barton*	1935		11	11	165	65,335	708,323
Pritchard, *Barton*	1944		10	10	320	117,895	141,460
Augusta, N., *Butler*	1914		62	62	270	91,980	16,529,634
Augusta, S., *Butler*	1916		128	128	545	208,415	43,626,924
Brandt, *Butler*	1936		56	56	365	135,780	1,263,248
El Dorado, *Butler*	1917		1,601	1,601	7,190	2,648,075	190,183,340
Haverhill, *Butler*	1927		72	72	258	103,295	3,710,548
Seward, *Butler*			14	14	27	9,125	1,001,782
Slick-Carson, *Cowley*	1924		16	16	65	32,485	3,286,189
Couch, *Cowley*	1937		22	22	325	130,305	897,989
David, *Cowley*	1935		26	26	160	57,670	852,323
Eastman, *Cowley*	1924		25	25	101	37,960	2,594,899
Falls City, *Cowley*	1916		8	8	34	11,315	1,232,787
Frog Hollow, *Cowley*	1937	7	36	43	1,045	410,990	2,316,576
Graham, *Cowley*	1924		9	9	58	22,265	2,602,501
Hittle, *Cowley*	1926	22	40	62	1,555	626,705	6,081,226
Rainbow Bend, *Cowley*	1923		114	114	645	230,680	14,295,885
Weathered, *Cowley*	1935		22	22	140	55,115	2,391,917
Bemis-Shutts, *Ellis*	1935		470	470	13,500	5,159,640	37,701,811
Blue Hill, *Ellis*	1937		17	17	310	114,975	974,920
Burnett, *Ellis*	1937		208	208	7,750	3,188,640	21,907,825
Pleasant, *Ellis*	1944		14	14	355	75,190	82,214
Lorraine, *Ellsworth*	1934		60	60	485	189,435	9,604,634
Stoltenberg, *Ellsworth*	1931		276	276	7,250	2,739,690	19,409,226
Morel, *Graham*	1938		56	56	2,750	1,076,020	2,988,840
Halstead, *Harvey*	1929		21	21	160	63,145	1,590,070
Hollow-Nikkel, *Harvey*	1931		54	54	450	182,135	19,855,477
Cunningham, *Kingman*	1931		120	120	1,265	540,200	5,475,939
Hillsboro, *Marion*	1927		9	9	105	35,040	2,025,619
Lost Springs, *Marion*			181	181	1,680	633,275	6,414,403
Bornholdt, *McPherson*	1937		142	142	3,265	1,411,820	9,052,005
Chindberg, *McPherson*	1929		25	25	145	54,750	1,551,164
Crowther, *McPherson*	1942		22	22	715	245,280	728,153
Graber, *McPherson*	1934		129	129	695	269,005	8,168,436
Henne, *McPherson*	1940		25	25	505	191,260	878,445
Jenday, *McPherson*	1944	1	19	20	495	129,575	139,841
Johnson, *McPherson*	1942		15	15	178	79,205	2,987,773
Lindsborg, *McPherson*	1942		106	106	1,675	748,980	2,869,108
McPherson, *McPherson*	1942		23	23	115	46,720	1,101,986
Ritz-Canton, *McPherson*	1929		212	212	1,875	741,680	38,603,333
Roxbury, *McPherson*	1938		37	37	775	304,410	2,038,072
Voshell, *McPherson*	1929		84	84	1,525	589,475	25,913,478
Aldrich, *Ness*	1929		21	21	620	270,465	1,063,732
Arnold, *Ness*	1944		2	2	45	19,710	31,062
Pawnee Rock, *Pawnee*	1936		24	24	328	151,475	1,397,607
Dayton, *Phillips*	1941		22	22	250	99,280	591,564
Ray, *Phillips*	1940		76	76	3,125	1,147,195	4,399,336
Carmi, *Pratt*	1942	3	88	91	2,810	1,161,430	4,190,390
Coats, *Pratt*	1944		3	3	70	31,390	49,668
Iuka, *Pratt*	1937		22	22	440	190,530	840,499
Stark, *Pratt*	1943		12	12	368	156,950	466,383
Burrton, *Reno*	1931		363	363	3,475	1,350,865	39,781,844

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
KANSAS—Continued							
Hilger, *Reno*	1934		25	25	260	111,690	3,078,266
Lerado, *Reno*	1935		22	22	68	43,800	2,577,234
Peace Creek, *Reno*	1941		125	125	3,375	1,304,510	7,550,462
Chase, *Rice*	1931		387	387	7,725	3,075,855	40,393,987
Edwards, *Rice*	1936		88	88	2,350	945,715	6,981,649
Geneseo, *Rice*	1934		197	197	5,175	2,234,895	17,079,417
Haferman, *Rice*	1936		10	10	155	74,825	824,436
Orth, *Rice*	1932		19	19	280	110,960	1,279,894
Ploog, *Rice*	1930		8	8	60	24,090	1,420,963
Raymond, *Rice*	1930	2	60	62	1,350	554,070	8,967,425
Silica, Rice	1931	1	757	758	13,850	5,867,740	66,987,575
Smyres, *Rice*	1942		22	22	550	224,475	846,239
Welch, *Rice*	1924		24	24	245	78,110	4,596,149
Wenke, *Rice*	1935		10	10	220	92,345	801,162
Wherry, *Rice*	1933		106	106	735	277,765	9,558,156
Barry, *Rooks*	1943		25	25	1,415	555,530	1,096,534
Hobart, *Rooks*	1944		3	3	32	12,775	25,680
Laton, *Rooks*	1927		92	92	550	222,650	2,639,217
Westhusin, *Rooks*	1936		21	21	360	128,480	904,593
Otis, *Rush*	1934		25	25	785	293,095	2,808,830
Atherton, *Russell*	1935		32	32	375	149,650	1,764,658
Atherton, N., *Russel*	1939		2	2	42	10,220	14,124
Big Creek, *Russell*	1935		129	129	2,075	793,145	7,471,603
Fairport, *Russell*	1935		145	145	1,700	730,730	17,805,048
Gorham, *Russell*	1941		293	293	5,140	2,067,725	29,075,598
Hall-Guerney, *Russell*	1931		552	552	8,890	3,409,830	26,079,827
Janne, *Russell*	1944		6	6	58	30,660	54,865
Russell, *Russell*	1934		57	57	1,095	424,495	6,402,112
Trapp, *Russell*	1939		1,053	1,053	28,750	10,630,625	72,887,287
Williamson, *Russell*	1936		48	48	995	363,175	1,032,539
Hunter, *Saline*	1943		19	19	505	185,420	415,297
Shallow Water, *Scott*	1934		12	12	285	118,625	1,447,452
Clearwater, *Sedgwick*	1944		4	4	105	20,805	24,052
Eastborough, *Sedgwick*	1938		29	29	248	99,645	8,544,275
Goodrich, *Sedgwick*	1928		30	30	465	204,765	3,923,494
Greenwich, *Sedgwick*	1929		40	40	645	222,650	10,116,197
Robbins, *Sedgwick*	1929		49	49	175	60,590	3,242,354
Valley Center, *Sedgwick*	1928		57	57	470	181,770	21,220,522
Adell, *Sheridan*	1945		17	17	840	219,730	229,682
Bedford, *Stafford*	1943		21	21	350	118,990	960,713
Broch, *Stafford*	1944		5	5	138	34,675	35,551
Drach, *Stafford*	1943		44	44	1,250	505,525	1,751,425
Gates, *Stafford*	1933		13	13	290	124,100	1,214,832
Jordan, *Stafford*	1936		7	7	148	51,830	539,539
Kipp, *Stafford*	1936		11	11	120	53,290	459,889
Leesburgh, *Stafford*	1938		16	16	645	252,945	1,570,094
Max, *Stafford*	1938		12	12	410	140,890	675,678
Richardson, *Stafford*	1930		61	61	1,700	652,620	7,122,930
St. John, *Stafford*	1935		25	25	385	152,570	1,898,190
Sittner, *Stafford*	1937		32	32	840	246,740	812,213
Snider, S., *Stafford*	1938		10	10	260	91,615	497,288
Stafford, *Stafford*	1940		21	21	790	304,045	1,767,468
Zenith, *Stafford*	1937	12	373	385	5,450	2,912,335	20,847,142
Caldwell, *Summer*	1929		4	4	84	36,135	1,211,434
Churchill, *Summer*	1926		58	58	255	98,185	18,919,969
Oxford, *Summer*	1927		45	45	485	177,755	15,220,150
Padgett, *Summer*	1924		20	20	170	61,320	2,134,323
Wellington, *Summer*	1929		95	95	535	190,895	5,564,237
Total Above Data		51	11,506	11,557	202,233	79,175,435	1,090,676,141
Kansas, Unclassified		123	15,012	15,135	48,967	17,320,710	476,656,667
Total Kansas		174	26,518	26,692	251,200	96,496,145	1,567,332,808
KENTUCKY **New Development**							
Barnett, Creek, *Ohio*	1943		1	1			607
Barnsley, *Hopkins*	1944					365	365
Belton, *Muhlenberg*			3	3	10	5,110	61,602
Birk City, *Daviess-Henderson*	1938		109	109	445	146,730	2,635,027
Burbank Chapel, *Henderson*	1944		8	8	625	89,060	91,256
Cairo, *Henderson*	1943		1	1			4,539
Caney Mound, *Union*	1945		1	1		365	365
Chapman, *Union*	1943		1	1		365	7,477
Clay, *Webster*	1943		7	7	10	5,840	14,465
Clay, E., *Webster*	1944		2	2		365	1,829
Corydon, *Henderson*			5	5	21	13,870	207,447
Corydon, E., *Henderson*	1945		1	1	17	5,475	5,475
Curdsville, *Daviess*	1944		1	1	10	3,285	5,115
Dixie, *Henderson*	1945		26	26	2,050	237,250	237,250
Curdsville, *Daviess*	1944		1	1	10	3,285	5,115
Geneva, *Henderson*	1943		18	18	203	79,205	199,599
Gilmore, *Henderson*	1938		9	9	185	45,625	229,819
Grassy Pond, *Henderson*	1945		3	3	25	5,475	5,475
Greenbriar, *Henderson*	1943		2	2	8	3,650	7,738
Hebbardsville			14	14	44	21,170	202,089
Hittesville, Consolidated *Union*	1943		73	73	1,640	636,195	1,847,375
Livermore, *McLean*			5	5	50	22,265	198,516
Livermore, E., *Ohio*	1945		1	1			
Livermore, N., *McLean*	1943		3	3	15	6,935	20,418
McKinley, *Henderson*	1944		5	5	28	13,140	23,754
Morganfield, *Union*	1943		11	11	170	78,475	228,476
Panther, *Daviess*	1943		17	17	275	71,905	181,758
Piney, *Crittenden*	1945		2	2	25	1,825	1,825
Poole, Consolidated, *Henderson*	1943		120	120	3,550	1,006,305	1,661,690
Poole, S., *Webster*	1945		1	1	5	1,825	1,825
Powells Lake, *Union*	1944		13	13	505	107,310	138,786
Pratt, *Webster*	1943		13	13	250	104,390	274,846



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Great toughness . . . remarkable resistance to heavy and repeated impacts . . . excellent ductility . . . high resistance to corrosion . . . easy machinability . . . and a very versatile castability that makes for sound casting accurate to pattern.

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TEXAS FOUNDRIES

Organized for Service

LUFKIN, TEXAS

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
KENTUCKY—Continued							
Raleigh, *Union*	1944		5	5	34	11,680	51,457
Reed, *Henderson*	1939		5	5	20	8,760	68,519
Reed, S., *Henderson*	1943		1	1			864
Robards, *Henderson*	1943		11	11	130	63,875	213,738
Rock Springs, *Henderson*	1944		2	2	15	8,395	12,055
Sebree, *Webster*	1940		8	8	20	9,490	79,273
Smith Mills, *Henderson*	1942		96	96	2,325	1,064,705	6,214,509
Spottsville, *Henderson*	1938		4	4	33	14,600	171,933
Spring Grove, *Union*	1941		10	10	90	31,025	153,990
Sturgis, *Union*	1944		1	1	20	8,760	9,492
St. Raphael, *Daviess*	1944		1	1	5	730	2,926
Thurston, *Daviess*			2	2	7	2,190	26,337
Tilden, *Union*	1942			abn'd			565
Uniontown, *Union*	1942		214	214	7,450	3,090,820	5,483,008
Utley, *Union*	1943		7	7	55	40,150	168,295
Utley, N., *Union*	1944		1	1			366
Wabash Island, *Union*	1943		1	1			3,652
Wathen, *Union*	1942		8	8	45	16,790	158,880
Waverly, *Union*	1945		35	35	1,275	140,890	140,890
Zion, *Henderson*	1943		1	1	5	1,825	4,899
Wanamaker, *Webster*	1944		2	2	10	5,475	11,697
Total, New Development			891	891	21,705	7,233,935	21,474,153
Old Development			13,850	13,850	9,400	3,132,795	182,861,330
Total Kentucky			14,741	14,741	31,105	10,366,730	204,335,483
LOUISIANA							
Louisiana Summary							
North Louisiana		840	3,489	4,329	76,575	25,604,385	676,078,625
South Louisiana		2,503	978	3,481	295,273	107,379,429	1,031,177,474
Total Louisiana		3,343	4,467	7,810	371,848	132,983,814	1,707,256,099
North Louisiana							
Beckman, *Morehouse*	1942	1		1			600
Bellevue, *Bossier*	1922		201	201	550	199,290	11,517,020
Benton, *Bossier*	1944	4		4	360	102,200	104,005
Big Creek, *Richland*	1945	22	3	25	1,500	86,505	86,505
Big Island, *Rapides*	1942			abn'd			4,095
Caddo, *Caddo*	1906		1,417	1,417	5,250	1,913,330	171,532,115
Caddo Light			1,062	1,062	4,140	1,522,415	
Caddo Heavy	1906		355	355	1,110	390,915	
Carterville, Shallow, *Bossier-Webster*	1929		19	19	50	20,440	1,713,949
Carterville, N., *Bossier-Webster*	1943		6	6	155	52,650	207,445
Catahoula Lake, *LaSalle*	1942	2	3	5	650	135,050	460,805
Converse, *Sabine*	1935		63	63	255	102,200	2,895,190
Cotton Valley, *Webster*	1924	118	41	159	7,450	2,429,805	49,458,825
Holloway	1936		37	37	615	244,550	6,466,061
Bodcaw	1938		4	4	200	102,200	3,636,417
Dist. and Rim Oil	1937	118		118	6,635	2,083,055	24,413,847
Glen Rose	1928			abn'd			350,000
Blossom	1924			abn'd			14,592,500
Cross Lake, *Caddo*	1938	5	46	51	1,385	517,570	7,448,665
Cypress Bayou, *LaSalle*	1941		1	1	5	4,015	151,200
Delhi, *Richland*	1945	65	3	68	6,950	1,024,190	1,024,190
Desoto, Crichton, and Bull Bayou, *Desoto-Red River*	1913		106	106	1,100	384,345	59,830,215
Elm Grove, *Bossier-Caddo*	1917		39	39	305	98,550	4,187,855
Elm Ridge, *LaSalle*	1942			abn'd			7,650
Haynesville, *Claiborne*	1921	150	196	346	6,450	2,379,070	87,977,275
Blossom Zone	1921		186	186	1,810	720,510	74,982,455
Cotton Valley Zone	1944	8		8	1,200	229,220	239,350
Pettit Zone	1941	142	10	152	3,440	1,429,340	12,755,470
Haynesville, E., *Claiborne*	1945	1		1	70	6,205	6,405
Holly, *Desoto*		7	29	36	1,010	350,765	1,708,315
Holly Ridge, *Tensas*	1943	33	3	36	3,575	1,430,070	2,287,430
Tuscaloosa	1943	32	3	35	3,470	1,393,205	2,215,160
Wilcox	1944	1		1	105	36,865	72,270
Homer, *Claiborne*	1919	1	311	312	2,525	957,395	75,422,840
Cotton Valley	1943	1		1			3,820
Homer Shallow	1919		311	311	2,525	957,395	75,419,020
Indian Bayou, *LaSalle*	1942	1		1	140	24,455	145,155
Jena, S., *LaSalle*	1941		5	5	145	56,575	390,826
Knowles, *Lincoln*	1945	1		1	25	2,190	2,190
Lake St. John, *Concordia*	1942	67	4	71	7,250	1,799,815	2,807,020
Tuscaloosa	1944	52	2	54	6,405	1,497,595	1,787,040
Wilcox	1942	15	2	17	845	302,220	1,019,980
Larto Lake, *Catahoula*	1941		1	1	80	25,550	129,360
Lisbon, *Claiborne-Lincoln*	1936	18	117	135	1,470	498,590	12,378,015
Lisbon Crude	1936		117	117	1,020	336,530	11,350,639
Lisbon Distillate	1939	18		18	450	162,060	1,027,376
Little Creek, *LaSalle*	1941	17	49	66	1,685	725,985	4,307,235
Longwood, *Caddo*	1945	4		4	220	36,865	36,865
Manifest, *Catahoula*	1942	1		1	20	6,935	11,380
Nebo, *LaSalle*	1940	49	99	148	7,700	3,121,845	14,177,734
Olla, *LaSalle*	1940	49	134	183	7,390	2,906,495	19,626,275
Olla, S., *LaSalle*	1941	3	9	12	210	92,710	572,655
Pleasant Hill, *Sabine*	1927		19	19	45	15,695	1,703,285
Rodessa, *Caddo*	1935	153	181	334	6,475	2,527,625	86,271,775
Sailes, *Bienville*	1945	1		1	65	18,250	18,250
Sarepta, *Bossier-Webster*	1922		1	1	40	14,965	1,778,720
Shongaloo, *Webster*	1929	2		2	10	6,935	278,276
Shongaloo, N., *Webster*	1945	1		1	20	6,205	6,205
Sligo, *Bossier*	1936	34	50	84	960	365,730	4,738,830

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
N. LOUISIANA—Continued							
Sugar Creek, *Claiborne*	1941	27	15	42	710	289,080	2,585,175
Tremont, *Lincoln*	1945	1		1	30	8,760	8,760
Trout Creek, *LaSalle*	1941		6	6	75	24,455	224,780
Urania, *Grant-LaSalle-Winn*	1925		274	274	1,650	631,815	28,802,925
White Sulphur Springs, *LaSalle*	1927			abn'd			12,290
Willow Lake, *Catahoula*	1941	2		2	260	91,980	379,555
Zwolle, *Sabine*	1928		38	38	305	111,325	16,652,695
Total North Louisiana		840	3,489	4,329	76,575	25,604,385	676,078,625
South Louisiana							
Abbeville, *Vermilion*	1937	9		9	325	120,831	1,061,947
Anse La Butte, *St. Martin*	1904	61	14	75	6,800	2,478,553	12,522,083
Aranudville, *St. Martin*	1944					7,099	15,434
Avery Island, *Iberville*	1942	13		13	2,800	932,757	1,718,579
Bancroft, *Beauregard*	1938	3	20	23	700	216,641	3,710,028
Barataria, *Jefferson*	1939	24		24	4,500	1,370,429	6,160,888
Bastian Bay, *Plaquemines*	1941	8		8	850	162,992	274,563
Bateman Lake, *St. Mary*	1937	3		3	330	130,739	1,409,312
Bay Baptiste, (S. Lirette), *Terrebonne*	1938	1		1	50	6,290	8,599
Bay De Chene, *Jefferson*	1942	1		1	200	69,338	235,730
Bay St. Elaine, *Terrebonne*	1937	9	3	12	1,000	260,222	1,319,500
Bayou Blue, *Iberville*	1929	31	5	36	2,100	695,376	3,793,681
Bayou Bouillon, *St. Martin*	1916					1,910	569,235
Bayou Carlin, *St. Mary*	1945	1		1	200	30,439	30,439
Bayou Choctaw, *Iberville*	1931	4	8	12	400	129,200	4,303,709
Bayou Couba, *St. Charles*	1942	3		3	525	209,750	481,129
Bayou des Allemands, *St. Charles*	1937	7	6	13	450	194,798	1,429,160
Bayou des Glaise, *Iberville*	1940	3		3	700	189,427	248,980
Bayou Mal'et, *Acadia*	1936	5	2	7	400	113,372	806,221
Bayou Mallet, S., *Acadia*	1945	1		1	50	17,860	17,860
Bayou Penchant, *Terrbeonne*	1945	2		2	45	20,091	20,091
Bayou Perot, *Jefferson*	1945	1		1	300	29,716	29,716
Bayou Pigeon, *Iberia*	1940	5		5	300	117,279	960,354
Bayou Sale, *St. Mary*	1941	47		47	8,800	2,897,274	8,995,796
Bear, *Beauregard*	1943	6		6	600	215,601	546,116
Belle Isle, *St. Mary*	1941	3		3	100	58,690	81,523
Big Island, *Rapides*	1942						3,449
Big Lake, *Cameron*	1936	2		2	50	18,329	123,354
Black Bayou, *Cameron*	1929	15	4	19	1,800	690,732	12,615,869
Bosco, *Acadia-St. Landry*	1934	41	9	50	2,800	1,005,655	26,466,793
Branch, *Acadia*	1942	3		3	150	60,176	155,795
Bully Camp, *La Fourche*	1944	4		4	700	281,508	415,765
Caillou Island, *Terrebonne*	1930	45	9	54	5,000	1,918,203	38,291,441
Cameron Meadows, *Cameron*	1931	10	17	27	1,000	403,256	10,731,729
Cankton, *St. Landry*	1937						47,780
Cankton, N., *St. Landry*	1944	9		9	1,300	429,031	555,644
Chacahoula, *La Fourche*	1938	25		25	1,900	758,595	4,603,540
Chalkey, *Cameron*	1938	30		30	2,400	1,038,715	8,153,066
Charenton, *St. Mary*	1936	37	90	127	3,100	1,061,854	12,977,778
Cheneyville, *Rapides*	1935	10	11	21	900	433,819	5,717,010
China, *Jefferson Davis*	1940					727	7,772
College Point, *St. James*	1944	1		1	100	36,518	44,442
Creole, *Cameron*	1938	7		7	350	154,744	2,526,639
Crowley, *Acadia*	1945	2		2	225	36,610	36,610
Darrow, *Ascension*	1932	9	5	14	975	423,572	6,833,959
Deer Island, *Terrebonne*	1944						443
Delacroix Island, *Plaquemines*	1941	5		5	800	283,546	666,789
De Large (Dulac), *Terrebonne*	1938	3		3	650	291,266	814,839
Delta Duck Club, *Plaquemines*	1941	6		6	800	246,519	434,284
Delta Farms, *La Fourche*	1940	47		47	9,800	3,318,766	7,056,877
Dog Lake Bayou, *Terrebonne*	1929	8	5	13	1,500	483,219	4,076,158
East Moss Lake, *Calcasieu*	1944	3		3	100	26,697	42,388
Edgerly, *Calcasieu*	1913	10	4	14	300	74,551	9,080,032
Egan, *Acadia*	1943	12		12	2,100	404,025	457,453
Eola, *Avoyelles*	1939	42	52	94	6,100	2,504,004	20,716,095
Erath, *Vermilion*	1940	26	3	29	3,600	1,212,871	2,189,375
Fausse Point, *Iberia*	1927	7		7	1,000	339,478	980,986
Fields, *Beauregard*	1943	6		6	500	144,266	145,177
Four Isle, *Terrebonne*	1934						291,433
Flatwoods, *Rapides*	1945					490	490
Fresh Water Bayou, *Vermilion*	1944					1,448	4,861
Garden Island Bay, *Plaquemines*	1935	33	7	40	3,500	1,138,924	9,790,162
Gibson, *Terrebonne*	1937	31		31	4,300	1,884,862	11,969,945
Gibson, E., *Terrebonne*	1943	3		3	5	1,743	12,693
Gibson, N. E., *Terrebonne*	1941	17		17	3,600	1,464,373	4,037,800
Gillis-English Bayou, *Calcasieu*	1934	7	18	25	600	218,347	23,082,560
Golden Meadows, *La Fourche*	1938	93	80	173	7,000	2,486,256	23,012,976
Good Hope, *St. Charles*	1944	15		15	3,400	759,851	785,352
Gordon, *Beauregard*	1944					2,114	5,854
Grand Bay (Bird Island), *Plaquemines*	1938	42		42	8,800	3,006,501	14,017,466
Grand Lake, *Cameron*	1939	21		21	2,000	745,417	6,918,329
Gueydan, *Vermilion*	1932	25	6	31	4,700	1,668,829	7,247,272
Guyedan, W., *Vermilion*	1945	13	2	15	1,150	389,313	1,632,488
Gum Cove Prospect, *Cameron*	1944	3		3	160	64,387	100,724
Hackberry, E., *Cameron*	1927	30	27	57	4,400	1,637,920	33,143,476
Hackberry, W., *Cameron*	1928	55	27	82	5,700	2,161,602	18,517,217
Happytown, *St. Martin*	1939	2		2	140	42,013	720,249
Hayes, *Calcasieu*	1942	2		2	15	5,849	20,320
Hester (Convent) *St. James*	1943	2		2	60	32,120	79,945
Hester, 11,000f Sd., *St. James*	1945	1		1	20	8,279	8,279
Hope Villa, *E. Baton Rouge*	1943					1,102	21,426

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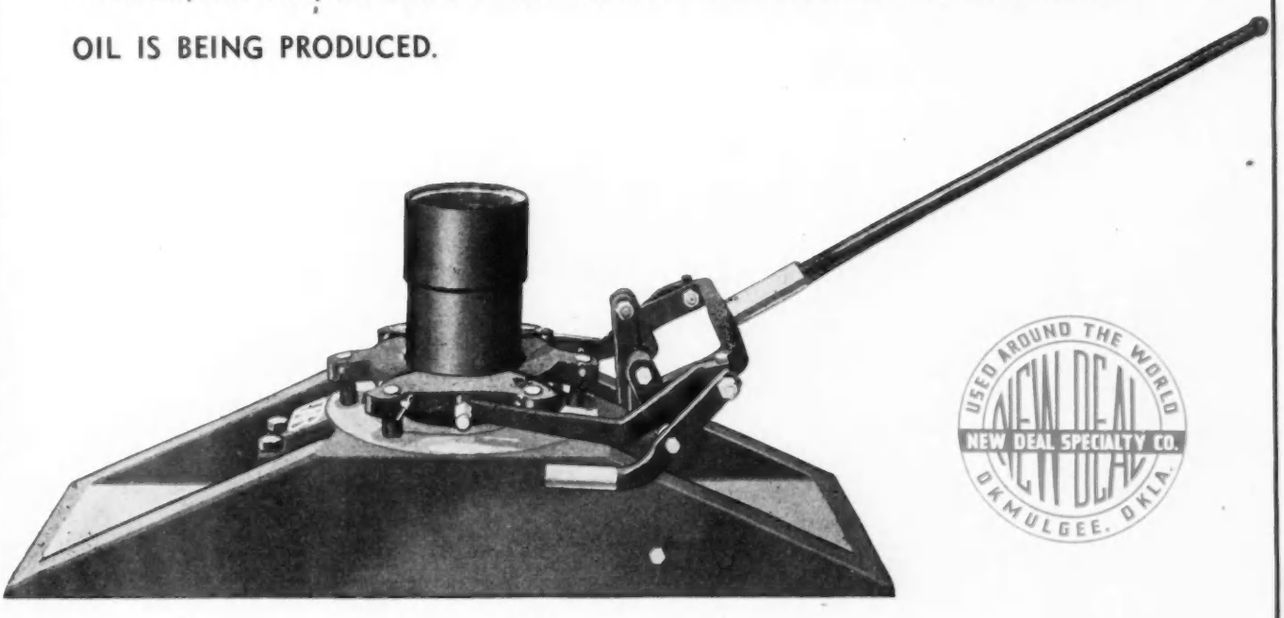
● THAT IS WHY BUTLER AUTOMATIC CASING SPIDERS ARE BEING USED TO RUN THOSE LONG STRINGS OF CASING NOW BEING USED IN THE NEW DEEP FIELDS OF TEXAS, OKLAHOMA, LOUISIANA, MISSISSIPPI, NEW MEXICO, KANSAS, COLORADO AND IN THE MANY OTHER STATES WHERE OIL IS BEING PRODUCED.



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HYDRAULIC PIPE STRAIGHTENERS — PIPE CLEANING MACHINES — OIL FIELD SPECIALTIES

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
S. LOUISIANA—Continued							
Horse Shoe Bayou, *St. Mary*	1937	8	.....	8	1,200	436,423	3,056,719
Houma, N., *Terrebonne*	1945	.....	.....	.....	.....	129	129
Iberia, *Iberia*	1917	59	21	80	5,500	2,156,473	34,312,179
Indian Village, *Jeff. Davis*	1944	1	.....	1	100	36,009	43,671
Iota, *Acadia*	1945	1	.....	1	65	20,243	20,243
Iowa, *Calcasieu*	1931	41	19	60	6,500	2,729,589	57,553,295
Jeanerette, *St. Mary*	1935	13	2	15	800	332,870	11,812,145
Jeanerette, S., *St. Mary*	1945	1	.....	1	200	27,080	27,080
Jefferson Island, *Iberia*	1938	6	6	12	550	201,292	1,788,324
Jennings, *Acadia*	1937	50	60	110	6,700	2,459,661	94,462,699
Kennilworth (Reggio-Shell Beach), *St. Bernard*	1939	.....	.....	.....	.....	4,320	138,743
Krotz Springs, *St. Landry*	1943	8	.....	8	200	65,146	127,138
La Fitte, *Jefferson*	1935	53	7	60	11,700	4,183,338	43,909,582
La Fourche Crossing, *La Frouche*	1939	6	.....	6	300	145,415	986,036
Lake Arthur, *Jefferson Davis*	1937	14	.....	14	1,200	522,353	2,130,961
Lake Barre, *Terrebonne*	1929	5	17	22	400	143,989	18,425,644
Lake Chicot, *St. Martin*	1941	14	.....	14	2,000	771,834	2,356,990
Lake De Cade, *Terrebonne*	1942	2	.....	2	25	10,535	64,568
Lake Hermitage, *Plaquemines*	1934	.....	.....	.....	.....	1,382	161,576
Lake Long, *La Fourche*	1937	17	1	18	1,600	688,940	4,685,706
Lake Mongoulois, *St. Martin*	1939	1	1	2	265	95,834	267,346
Lake Pelto, *Terrebonne*	1929	14	5	19	2,900	893,414	4,597,422
Lake Salvadoe, *Jefferson*	1940	25	.....	25	4,200	1,603,190	5,532,286
Lakeside, *Cameron*	1941	5	.....	5	200	65,008	113,939
Lake Verret, W., *St. Martin*	1938	16	14	30	2,700	991,832	4,677,778
Lake Washington, *Plaquemines*	1931	7	.....	7	480	169,858	3,669,607
Lapeyrouse, *Terrebonne*	1941	.....	.....	.....	.....	.....	1,104
La Pice, *St. James*	1939	12	1	13	1,500	565,431	1,441,118
La Place, *St. John*	1939	5	.....	5	300	115,142	421,645
Laurel Ridge, *Iberville*	1944	2	.....	2	20	3,757	5,495
Leeville, *La Fourche*	1931	27	49	76	4,400	1,555,926	28,784,019
Lewisburg, *Acadia*	1941	3	.....	3	100	31,543	123,349
Lirette, *Terrebonne*	1937	7	.....	7	300	152,994	869,648
Little Chenier, *Cameron*	1940	.....	.....	.....	.....	.....	12,057
Lockport, *Calcasieu*	1924	10	9	19	750	272,605	16,865,552
Mud Lake, *Cameron*	1945	.....	.....	.....	.....	1,053	1,053
Napoleonville, *Assumption*	1943	4	.....	4	475	90,886	128,302
Neale, *Beauregard*	1940	47	8	55	5,500	2,314,356	8,044,963
Niblett's, *Jeff. Davis*	1940	.....	.....	.....	.....	.....	5,389
North Crowley, *Acadia*	1937	34	10	44	4,200	1,652,842	11,607,229
North Elton, *Allen*	1939	3	.....	3	75	28,560	129,812
North Jeanerette, *St. Mary*	1943	3	.....	3	150	73,087	164,175
Oretta, *Beauregard*	1945	3	.....	3	200	61,169	61,169
Paradis, *St. Charles*	1939	66	.....	66	10,200	3,651,145	15,530,434
Pecan Island, *Vermilion*	1943	.....	.....	.....	.....	1,063	2,987
Pecan Lake, *Cameron*	1941	.....	.....	.....	.....	.....	9,906
Perkins, *Calcasieu*	1943	3	.....	3	50	16,778	30,544
Pine Grove, *Beauregard*	1945	.....	.....	.....	.....	1,211	1,211
Pine Prairie, Deep, *Evangeline*	1941	49	7	56	4,700	1,918,624	6,417,122
Pine Prairie, Shallow, *Evangeline*	1912	.....	.....	.....	.....	.....	20,000
Plumb Bob (Henderson), *St. Martin*	1939	4	.....	4	300	103,478	569,209
Pointe Au Fer, *Terrebonne*	1941	.....	.....	.....	.....	.....	202
Port Allen, *W. Baton Rouge*	1941	3	1	4	250	98,101	638,995
Port Barre, *St. Landry*	1929	26	27	53	2,700	1,026,969	14,403,333
Potash, Deep, (8000 ft), *Plaquemines*	1939	12	6	18	1,100	438,610	3,377,865
Potash, (10,875 ft.), *Plaquemines*	1945	1	.....	1	50	28,309	28,309
Potash, Shallow, *Plaquemines*	1938	.....	1	1	25	3,677	4,110
Quarantine Bay, *Plaquemines*	1937	40	.....	40	8,300	2,949,549	15,572,914
Rabbit Island, *Iberia*	1943	.....	.....	.....	.....	.....	331
Raceland, *La Fourche*	1938	14	1	15	1,400	589,154	4,465,974
Reddell, *Evangeline*	1943	8	.....	8	40	36,332	115,634
Reserve, *St. John*	1945	1	.....	1	175	72,730	72,730
Ritchie, *Acadia*	1940	11	7	18	985	295,398	1,107,894
Ritchie, N., *Acadia*	1943	6	.....	6	300	90,757	194,088
Roanoke, *Jeff. Davis*	1934	20	9	29	2,600	840,655	12,114,526
Rosedale, *Iberville*	1943	5	.....	5	400	163,547	233,349
Sec. 28 Dome, *St. Martin*	1941	6	.....	6	800	250,530	367,334
Shuteston, *St. Landry*	1943	5	.....	5	385	122,488	170,087
Sorrento, *Ascension*	1928	6	.....	6	50	21,556	1,339,616
South Crowley, *Acadia*	1937	1	.....	1	8	3,624	142,875
South Elton, *Jeff. Davis*	1937	3	.....	3	125	53,383	148,135
South Houma, *Terrebonne*	1938	2	.....	2	200	59,497	739,317
South Jennings, *Jeff. Davis*	1937	.....	.....	.....	.....	553	144,911
S. Lake Charles, *Calcasieu*	1945	1	.....	1	20	11,181	11,181
S. Lewisburg, *Acadia*	1943	2	.....	2	50	19,895	37,742
St. Gabriel, *Iberville*	1941	29	.....	29	5,000	1,911,624	7,483,549
St. James, *St. James*	1943	2	.....	2	225	110,038	150,586
St. Martinsville, *St. Martin*	1935	2	.....	2	200	57,603	1,460,367
St. Martinsville, N., *St. Martin*	1945	2	.....	2	25	15,757	15,757
Starks, *Calcasieu*	1927	8	20	28	350	150,327	3,979,279
Stella, *Plaquemines*	1940	7	.....	7	500	196,840	1,053,304
Sulphur, *Calcasieu*	1926	10	50	60	2,100	788,559	18,954,897
Sweet Lake, *Cameron*	1927	15	2	17	1,600	584,199	8,085,589
Tepetate, *Acadia*	1935	26	19	45	1,650	621,842	13,738,689
Tepetate, N., *Acadia*	1938	19	.....	19	1,100	300,941	597,792
Tepetate, W., *Jeff. Davis*	1944	20	.....	20	4,500	1,001,337	1,023,367
Thornwell, S., *Jeff. Davis*	1942	3	.....	3	90	30,089	36,295
Timbalier Bay, *La Fourche*	1938	.....	2	2	100	28,290	310,206
University, *E. Baton Rouge*	1938	45	25	70	5,100	1,970,618	19,224,882
Unknown Pass, *Orleans*	1941	.....	.....	.....	.....	.....	12,635
Vacherie (Hester), *St. James*	1938	6	.....	6	500	160,294	325,597
Valentine, *La Fourche*	1938	8	10	18	500	207,954	5,924,161
Venice, *Plaquemines*	1937	37	.....	37	7,500	3,305,266	13,285,169
Vermilion Bay, *Iberia*	1939	1	2	3	250	70,460	651,389
Villa Platte, *Evangeline*	1937	197	55	252	7,100	2,576,486	31,967,601
Vinton, *Calcasieu*	1910	54	47	101	7,800	2,688,970	49,727,692
Weeks Island, *Iberia*	1945	1	.....	1	80	14,585	14,585
Welsh, *Jeff. Davis*	1903	7	8	15	45	20,569	736,224
West Bay, *Plaquemines*	1940	21	.....	21	3,200	1,209,498	4,308,675
West Cote Blanche Bay, *St. Mary*	1940	9	7	16	2,400	830,478	3,150,339
West Mermentau, *Jeff. Davis*	1940	3	.....	3	100	49,308	168,769
Westwego, *Jefferson*	1941	4	.....	4	175	73,478	432,706
White Castle, *Iberville*	1929	21	5	26	2,600	1,244,938	10,100,544
White Lake, W., *Vermilion*	1944	3	.....	3	140	42,975	59,412
White Lake, E., *Vermilion*	1940	21	2	23	3,300	1,199,381	3,112,128
Woodlawn, *Jeff. Davis*	1938	29	1	30	2,000	892,757	6,343,219
Total S. Louisiana	.....	2,503	978	3,481	295,273	107,379,429	1,031,177,474
MICHIGAN							
Adams, *Arenac*	1937	33	31	64	3,270	1,184,301	5,940,668
Akron, *Tuscola*	1938	.....	6	6	53	21,635	207,834
Ashton, *Osceola*	1945	1	2	3	200	13,951	13,951
Allegan, *Allegan*	1938	.....	.....	abn'd	.....	.....	818
Bangor, *Bay*	1945	.....	1	1	.....	.....	.....
Bangor, *Van Buren*	1939	.....	17	17	27	24,336	542,789
Bangor, N., *Van Buren*	1942	.....	17	17	52	431,088	279,743
Beaverton, *Gladwin*	1934	.....	13	13	47	17,172	707,231
Belly Achers, *Montcalm*	1944	.....	4	4	120	59,092	109,556
Bentley, *Gladwin*	1937	.....	43	43	210	79,559	993,943
Birch Run, *Saginaw*	1934	.....	11	11	10	2,704	215,217
Bloomer, *Montcalm*	1936	.....	.....	.....	abn'd	.....	814
Bloomer, *Montcalm*	1944	4	5	9	302	181,557	229,566
Bloomingdale, *Van Buren*	1938	.....	70	70	204	85,112	6,072,967
Bloomfield, *Huron*	1940	.....	.....	abn'd	.....	.....	71
Blue Lake, *Muskegon*	1941	.....	.....	abn'd	.....	.....	26
Breedsville, *Van Buren*	1943	.....	20	20	212	85,549	206,012
Broomfield, *Isabella*	1934	.....	.....	.....	abn'd	.....	541
Bushnell, *Montcalm*	1936	.....	.....	.....	abn'd	.....	4,035
Casco, *Allegan*	1940	.....	3	3	2	921	5,237
Cass, *Cass*	1930	.....	.....	.....	abn'd	.....	1,491
Cato, *Montcalm*	1944	.....	.....	.....	.....	881	1,341
Cedar, *Osceola*	1943	.....	9	9	219	93,202	414,890
Chase, *Lake*	1943	.....	1	1	.....	434	1,602
Clare City, *Clare*	1938	.....	3	3	8	3,652	33,103
Clayton, *Arenac*	1936	.....	43	43	414	162,052	4,178,285
Coldwater, *Isabella*	1944	45	11	56	3,734	929,754	998,183
Columbia, *Van Buren*	1938	.....	38	38	97	38,716	2,114,408
Cranberry Lake, *Clare*	1943	.....	1	1	8	3,294	12,906
Crystal, *Montcalm*	1935	.....	19	19	102	36,610	7,336,311
Crystal, *Oceana*	1941	.....	.....	.....	.....	380	867
Currie, *Isabella*	1936	.....	2	2	6	2,730	164,485
Dallas, *Clinton*	1942	.....	3	3	.....	.....	2,817
Dalton, *Muskegon*	1940	.....	9	9	35	15,718	32,400
Decatur, *Van Buren*	.....	.....	.....	abn'd	.....	.....	38
Deep River, *Arenac*	1944	53	.....	53	4,180	1,454,960	2,190,891
Derrfield, *Monroe*	1935	.....	17	17	74	26,707	417,285
Douglass, *Montcalm*	1945	1	1	2	125	14,321	14,321
Diamond Springs, *Allegan*	1938	.....	25	25	34	19,636	830,849
Dwight, *Huron*	1945	.....	1	1	.....	577	577
Dorr, *Allegan*	1938	.....	15	15	26	7,949	313,769
Dumont Lake, *Allegan*	1945	.....	2	2	3	276	276
East Norwich, *Missaukee*	1942	30	5	35	1,280	424,658	636,634
Edenville, *Midland*	1938	.....	23	23	57	23,325	1,225,747
Edmore, *Montcalm*	1933	.....	5	5	26	8,986	439,374
Elba, *Gratiot*	1945	.....	.....	.....	.....	76	76
Enterprise, *Missaukee*	1943	1	2	3	35	11,531	22,649
Edwardsburg, *Cass*	1941	.....	.....	abn'd	.....	.....	38
Elmwood, *Tuscola*	1945	.....	1	1	2	542	542
Essexville, *Bay*	1944	8	20	28	965	308,156	434,763
Evart, *Osceola*	1942	.....	27	27	1,120	449,465	2,404,398
Fillmore, *Allegan*	1943	.....	53	53	590	217,917	462,383
Fork, *Mecosta*	1942	10	49	59	4,723	1,562,537	3,856,264
Forest, *Genese*	1945	.....	1	1	.....	.....	.....
Foster, *Ogemaw*	.....	.....	.....	qbn'd	.....	.....	418
Freeman, *Clare*	1938	.....	24	24	155	64,368	3,577,184
Fremont, *Isabella*	1938	.....	.....	abn'd	.....	.....	2,771
Fremont, *Saginaw*	1937	.....	.....	abn'd	.....	.....	1,601
Geneva, *Midland*	1935	.....	.....	abn'd	.....	.....	60,996
Geneva, *Van Buren*	1940	.....	7	7	28	15,780	34,860
Gibson, *Bay*	1936	.....	.....	abn'd	.....	.....	3,573
Gratiot	1929	.....	.....	abn'd	.....	.....	228
Goodwell, *Hewaygo*	1943	3	29	32	412	138,642	830,399
Grout, *Gladwin*	1940	.....	3	3	7	3,420	29,146
Hamilton, *Clare*	1940	.....	.....	abn'd	.....	.....	10,344
Harrison, *Clare*	1945	.....	2	2	.....	5,070	5,070
Hart, *Oceana*	1932	.....	.....	abn'd	.....	.....	116,275
Hatton, *Clare*	1940	.....	3	3	42	16,809	118,670
Headquarters, *Roscommon*	1941	5	33	38	995	476,010	6,322,080
Heath, *Allegan*	1945	.....	1	1	.....	404	404
Hilliards, *Allegan*	1944	.....	14	14	29	25,128	79,166
Holland, *Ottawa*	1940	.....	.....	abn'd	.....	.....	14,689
Hope, *Barry*	1940	.....	8	8	27	9,449	24,763
Hopkins, *Allegan*	1939	.....	4	4	9	3,970	129,226
Huron, *Wayne*	1943	.....	.....	.....	.....	218	1,461
Jonesfield	1943	.....	.....	abn'd	.....	.....	63
Kawkawlin, *Bay*	1938	.....	134	134	1,775	649,378	2,781,381
Lakefield, *Saginaw*	1937	.....	1	1	2	799	8,378
Larkin, *Midland*	1935	.....	.....	abn'd	.....	.....	7,070
Leaton, *Isabella*	1929	.....	41	41	327	110,635	3,307,777
Lee, *Allegan*	1941	.....	.....	abn'd	.....	.....	1,903
Lincoln, *Midland*	1939	.....	.....	abn'd	.....	.....	71
Marne, *Ottawa*	1940	.....	2	2	.....	371	4,420
Sec. 10-17n-16w, *Mason*	1934	.....	.....	abn'd	.....	.....	228
Mill Lake, *Van Buren*	1938	.....	10	10	22	6,576	473,369

SYMBOL FOR TOUGHNESS

PACIFIC MOLOY LINERS

The symbol for toughness in Deepwell Pumps is "Moloy"—developed, named, and processed by Pacific. "Moloy" didn't just happen—like other outstanding contributions in the field of industrial science, "Moloy"—an alloy unbelievably resistant to sand, high pressure, abrasion, corrosion, and temperature—is the result of intensive metallurgical research, combined with the sure knowledge resulting from years of actual field experience. Liners of Pacific "Moloy" are honed to a high mirror finish, and are held to the closest tolerances. That is why Pacific Deep Well Pumps give long, trouble-free service. And remember, only from Pacific can you reap the positive benefits assured by "Moloy" liners. *Be Specific—Buy Pacific.*

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33-P **PACIFIC** *Engineered* **PUMPS**

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
MICHIGAN—Continued							
Monterey, *Allegan*	1938		18	18	26	10,555	423,073
Monterey, Sec. 24, *Allegan*	1938			abn'd			176
Mount Haley, *Midland*	1935		1	1		476	33,934
Mount Pleasant, *Isabella*	1928		169	169	686	251,954	22,723,142
Muskegon, *Muskegon*	1927		37	37	36	23,129	6,783,431
Muskrat Lake, *Van Buren*	1941		24	24	52	17,671	305,124
New Salem, *Allegan*	1938		69	69	396	139,556	3,835,818
Niles, *Berrien*	1940			abn'd			228
North Cedar, *Osceola*	1945		1	1			
North Buckeye, *Gladwin*	1937		153	153	700	260,192	15,634,016
North Hamilton, *Clare*	1943		1	1	7	2,327	7,980
Otisville, *Genesee*	1941		2	2	4	1,215	6,334
Otsego, *Allegan*	1938		2	2			2,246
Oshtemo, *Kalamazoo*	1944						50
Overisel, *Allegan*	1938		77	77	180	71,119	2,332,544
Pinconning, *Bay*	1944	1		1	100	37,292	47,116
Pine, *Montcalm*	1938		1	1	14	5,078	48,542
Pine River, *Gratiot*	1942		2	2	2	956	10,021
Polkton, *Ottawa*	1942		3	3	4	2,225	4,219
Porter, *Midland*	1931		233	233	1,400	519,218	34,451,926
Porter, *Van Buren*	1939						3,721
Prosper, *Missaukee*	1942	1	11	12	310	137,152	781,831
Redding, *Clare*	1939	2	71	73	720	250,495	10,673,630
Reed City, *Osceola*	1940	131	57	188	13,100	4,185,499	29,085,200
Richfield, *Roscommon*	1941	13	4	17	195	64,660	279,636
Richland, *Saginaw*	1935			abn'd			1,871
Riverside, *Missauke*	1942	1		1	9	5,974	37,556
Rockford, *Kent*	1945		3	3	100	10,574	10,574
Rose City, *Ogemaw*	1943	1	4	5	120	36,357	67,091
Roscommon, *Roscommon*	1945		1	1			
Rose Lake, *Osceola*	1943	4	13	17	510	207,703	734,462
Saginaw, *Saginaw*	1925		44	44	31	16,489	1,448,213
Salem, *Allegan*	1937		117	117	194	66,608	3,192,564
Sauble, *Lake*	1942		4	4	26	9,749	71,184
Secord, *Gladwin*	1937			abn'd			12,024
Sec. 11-Overisel, *Allegan*	1940		1	1			6,370
Sec. 18-Sherman, *Isabella*	1940		2	2		96	1,071
Sherman, *Isabella*	1936		41	41	137	66,346	4,331,956
Shiawassee	1930			abn'd			236
Skeels, *Clare*	1942		1	1			1,485
South Arkan, *Tuscola*	1941		2	2		628	12,875
Beaverton, S., *Gladwin*	1936		22	22	160	66,151	603,282
Buckeye, S., *Gladwin*	1936		71	71	201	79,112	4,046,955
South Monterey, *Allegan*	1944		16	16	100	75,025	94,358
Tallmadge, S., *Ottawa*	1939		52	52	115	43,501	453,994
Sumpter, *Wayne*	1942			abn'd			221
Tallmadge, (Sec. 5), *Ottawa*	1940			abn'd			1,647
Trowbridge, *Allegan*	1938		20	20	44	13,744	206,780
Vernon, *Isabella*	1930	2	24	26	165	82,594	4,606,761
Wayland, *Allegan*	1944		2	2	11	2,251	2,251
Walker, *Kent*	1938		394	394	720	302,254	10,118,029
West Beaverton, *Gladwin*	1944		1	1		1,215	3,253
West Branch, *Ogemaw*	1933		222	222	100	249,518	5,706,709
West Hopkins, *Allegan*	1941		21	21	10	10,298	383,374
West Sherman	1944						82
Wheatland, *Mecosta*	1945					3,499	3,499
Winfield, *Montcalm*	1936		4	4	10	2,314	56,366
Winterfield, *Clare*	1940		38	38	605	226,248	3,655,284
Wise, *Isabella*	1938		67	67	610	216,151	2,331,025
Wisner, *Tuscola*	1936			abn'd			543
Woodville, *Newaygo*	1943		7	7	93	36,158	159,046
Wyoming Park, *Kent*	1939		11	11	18	7,206	128,254
Yost-Jasper, *Midland*	1932		85	85	615	197,617	7,559,507
Zeeland, *Ottawa*	1939		13	13	55	25,957	211,747
Total Michigan		350	3,184	3,534	49,093	17,175,152	239,777,403
MISSISSIPPI							
(Data by Alec Crowell & Associates, Consulting Pet. Engineers, Jackson, Miss.)							
Baxterville, *Lamar*		15		15	144	57,364	58,411
Upper Tuscaloosa	1945	5		5	13	5,177	5,177
Lower Tuscaloosa	1944	10		10	131	52,187	53,234
Brookhaven, *Lincoln*	1943	1	1	2	281	41,844	61,145
Carthage Point, *Adams*	1945	1		1	158	45,148	45,798
Cary, *Sharkey*	1941		2	2	39	8,846	51,154
Cranfield, *Adams*		46		46	8,633	2,096,587	2,631,428
Wilcox	1943	9		9	801	194,614	278,666
Tuscaloosa	1944	37		37	7,832	1,901,973	2,352,762
Eucutta, *Wayne*	1943	82	3	85	6,468	2,084,894	2,540,292
Fayette, *Jefferson*	1945	1		1	261	22,781	22,781
Flora, *Madison*	1943		2	2	48	15,682	25,672
Gwinville, *Jeff. Davis*		11		11	584	119,112	121,756
Eutaw & Upper Tusc	1944	10		10	435	88,636	89,366
Lower Tuscaloosa	1944	1		1	149	30,476	32,390
Heidelberg, *Jasper*		37	73	110	7,351	2,893,770	4,334,369
Heidelberg, East	1944	32	47	79	5,287	2,081,172	3,364,132
Heidelberg, West	1944	5	26	31	2,064	812,598	970,237
Hub, *Marion*	1945	2		2	129	18,979	18,979
Jackson (Gas), 16 wells now, *Hinds-Rankin*	1930			Gas		Gas	Gas
Langsdale, *Clarke*	1945	5	11	16	161	76,997	76,997
Mallalieu, *Lincoln*	1944	3		3	271	118,063	150,366
Pickens, *Madison-Yazoo*	1940		43	43	5,484	2,088,991	6,623,225
Quitman, *Clarke*	1945		1	1	23	2,100	2,100
SoSo, *Jasper*	1945	1		1	16	2,853	2,853
Tinsley, *Yazoo*	1939		301	301	24,194	9,400,014	86,248,527
Total Mississippi		205	437	642	54,245	19,094,025	103,015,853

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
MISSOURI							
Total Missouri			36	36	130	44,000	337,000
MONTANA							
(Data from Oil Conservation Board of Montana, Great Falls, Mont.; partly essimated)							
Bannatyne, *Teton*	1927						55,245
Border, *Toole*	1930		12	12	50	15,874	898,834
Cat Creek, *Petroleum* and *Garfield*	1920	7	94	101	1,200	131,061	15,125,498
Cedar Creek Anticline, *Fallon*	1936						28,141
Clark's Fork, *Carbon*	1944					7,233	8,422
Cut Bank, *Glacier & Pondera*	1931	3	944	947	13,200	4,871,211	47,221,590
Devil's Basin, *Musselshell*	1919						20,422
Devon, *Toole*	1943		3	3	30	5,666	5,666
Dry Creek, *Carbon*	1930	1	4	5	460	169,562	2,317,205
Elk Basin, *Carbon*	1915	17	31	48	2,990	934,053	2,713,436
Frannie, *Carbon*	1940		2	2	50	19,127	101,505
Gage, *Musselshell*	1943		4	4	174	78,868	179,690
Kevin-Sunburst Area, *Toole*	1922	3	1,148	1,151	5,250	1,906,095	46,545,690
Lake Basin, *Stillwater*	1924		2	2	30	9,473	447,696
Lothair, *Toole*	1943		1	1	10	44	439
Midway-Brady, *Pondera*	1943						1,865
Mosser, *Yellowstone*	1936						5,588
Pondera, *Pondera-Teton*	1927		155	155	760	260,617	6,930,891
Pendroy, *Teton*	1943						
Reagan, *Glacier*	1943		3	3	10	1,563	6,600
Soap Creek, *Big Horn*	1921						127,495
Sweet Grass Hills (incl. Bearsden, Berthelote, Flat Coulee, Whitlash fields), *Liberty & Toole*	1929		8	8	14	7,268	132,725
Total Montana		31	2,411	2,442	24,138	8,408,715	122,874,643
NEBRASKA							
Barada, *Richardson*	1941				50	23,360	705,743
Dawson, *Richardson*	1940				100	36,500	113,068
Falls City, *Richardson*	1939				600	258,055	3,986,860
Shubert, *Richardson*	1940						116,193
Total Nebraska			70	70	750	317,915	4,921,864
NEW MEXICO							
New Mexico Summary—							
Northwest New Mexico		7	79	86	1,237	453,641	9,066,170
Southeast New Mexico		2,815	1,463	4,278	97,488	36,857,998	451,490,343
Total New Mexico		2,822	1,542	4,364	98,725	37,311,639	460,556,513
Northwest New Mexico							
Aztec, *San Juan*	1924						32,757
Hogback, *San Juan*	1924	7		7	210	75,185	2,383,638
Hospah, *McKinney*	1926		38	38	830	305,029	1,444,996
Rattlesnake, *San Juan*	1924		35	35	143	55,175	4,621,113
Red Mountain, *McKinley*	1935						5,400
Table Mesa, *San Juan*	1926		6	6	54	18,252	578,266
Total N.W., New Mexico		7	79	86	1,237	453,641	9,066,170
Southeast New Mexico							
Anderson, *Eddy*	1942	10	14	24	175	55,249	601,148
Arrowhead, *Lea*	1940	124		124	4,800	1,843,676	9,816,543
Artesia, *Eddy*	1925	4	145	149	550	158,753	6,216,493
Barber, *Eddy*	1938		11	11	175	61,382	677,980
Benson, *Eddy*	1943		4	4	80	38,469	119,187
Black River, *Eddy*	1938				abn'd		3,509
Brown, *Chaves*					abn'd		50
Caprock, *Lea*	1941		20	20	250	56,416	72,339
Comanche, *Chaves*	1939				abn'd		12,357
Cooper-Jal, *Lea*	1928	40	77	117	2,000	748,802	23,324,744
Corbin, *Lea*	1939		2	2	10	5,207	63,811
Culwin	1945		1	1	10	347	347
Daugherty	1945		1	1	6	1,815	1,815
Dayton, *Eddy*	1940		13	13	30	16,767	108,718
Drinkard-Yeso, *Lea*	1944		10	10	450	99,476	102,374
Dublin-Ellenberger, *Lea*	1944		1	1	40	23,853	26,842
Eaves, *Lea*	1929	10	13	23	800	320,389	3,278,881
Eunice, *Lea*	1928	360	117	477	15,000	5,705,202	76,584,835
Eunice, S., *Lea*	1935	74	6	80	1,500	588,014	8,162,250
Eunice, W., *Lea*	1938	12	15	27	925	394,069	1,587,434
Fenton, *Eddy*	1943		1	1	2	369	1,205
Getty, *Eddy*	1929		8	8	190	71,011	697,289
Grayburg-Jackson, *Eddy*	1936	212	67	279	5,400	2,017,511	17,619,676
Halfway, *Lea*	1940		5	5	155	61,348	469,628
Hardy, *Lea*	1936	15	23	38	275	105,059	1,776,156
Henshaw			1	1	2	730	3,778
High-Lonesome, *Eddy*	1939					173	30,221

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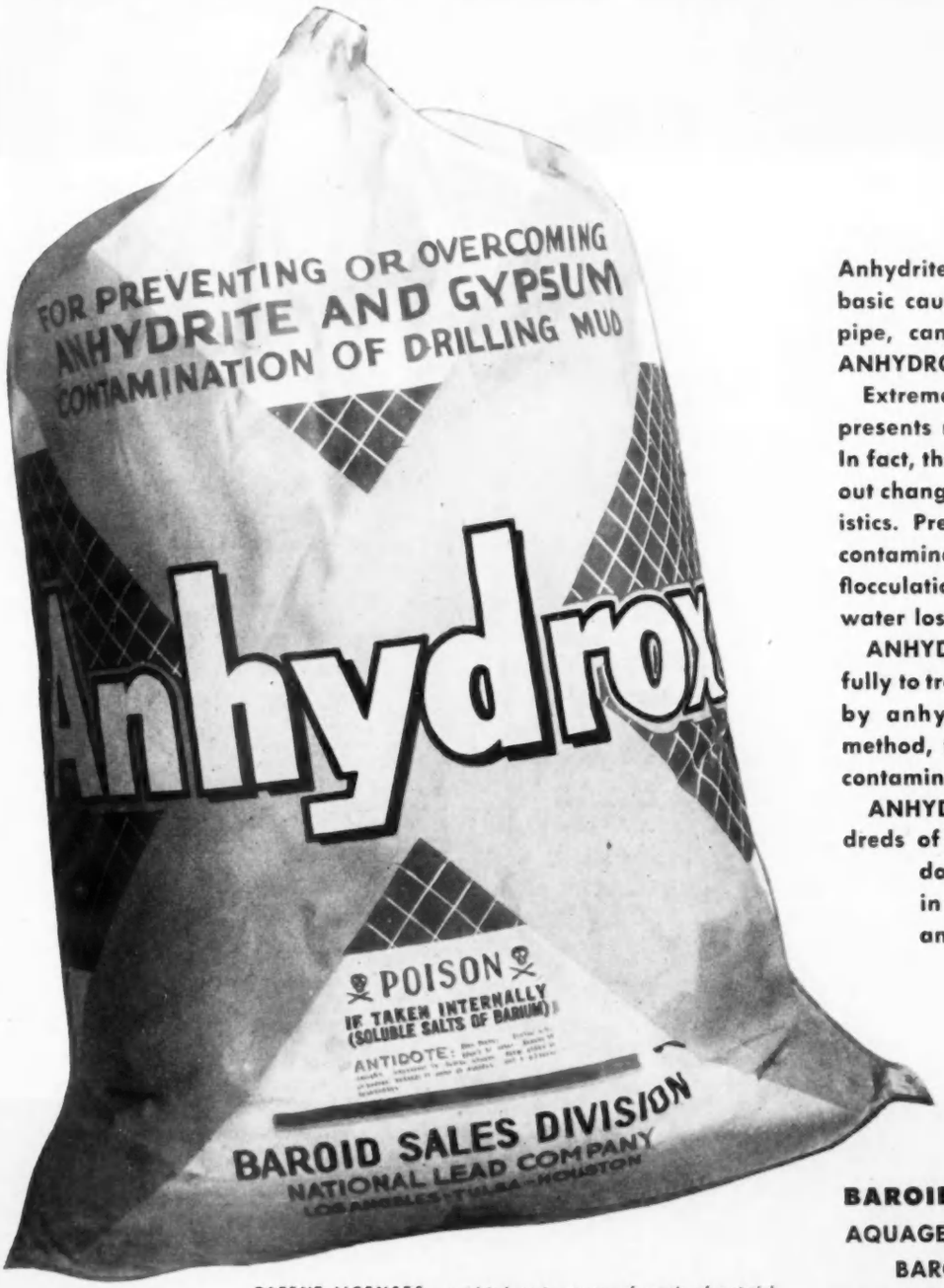
ANHYDROX



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Extremely simple to use, ANHYDROX presents no danger from overtreatment. In fact, the mud can be pre-treated without changing the original mud characteristics. Pre-treatment will prevent these contaminating chemicals from causing flocculation or an increase in viscosity, water loss or cake thickness.

ANHYDROX also may be used successfully to treat muds already contaminated by anhydrite and gypsum. By either method, the flocculating effects of these contaminants can be quickly overcome.

ANHYDROX already has saved hundreds of operators many thousands of dollars and days of drilling time in those areas where anhydrite and gypsum are encountered.

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PATENT LICENSES unrestricted as to sources of supply of materials, but on royalty bases, will be granted to responsible oil companies and others desiring to practice the subject matter of any and/or all of United States Patents Numbers 1,807,082; 1,991,637; 2,041,086; 2,044,758; 2,064,936; 2,094,316; 2,119,829; 2,214,366; 2,294,877; 2,304,256; 2,387,694, 2,393,165 and further improvements thereof. Applications for Licenses should be made to the Los Angeles office.

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
NEW MEXICO—Continued							
High-Lonesome, S., *Eddy*			1	1	4	968	8,107
Hobbs, *Lea*	1929	205	48	253	9,700	3,796,103	112,617,813
Inglefield, *Lea*	1928				abn'd		2,000
Langlie-Mattix, *Lea*	1935	59	254	313	3,500	1,328,597	20,176,461
Lea, *Lea*						1,178	65,819
Leo, *Eddy*	1939		6	6	42	12,745	125,679
Loco Hills, *Eddy*	1938	147	48	195	2,600	990,954	9,976,996
Lovington, *Lea*		36	13	49	1,600	594,859	3,459,240
Lovington, W., *Lea*		36	5	41	1,600	512,905	548,792
Lusk, *Lea*			4	4	75	32,084	139,145
Lusk, E., *Lea*	1942		4	4	35	9,772	88,134
Lusk, W., *Lea*	1942		2	2	10	1,601	1,723
Lynch, *Lea*	1929	3	6	9	275	103,925	7,376,998
Lynch, N., *Lea*	1938		1	1	14	5,240	115,073
Maljamar, *Lea*	1926	196	23	219	5,650	2,072,320	11,755,748
Maljamar, N., *Lea*	1940		2	2	6	2,471	76,191
Maljamar, S., *Lea*	1940		2	2	20	11,072	25,992
McMillan, *Eddy*	1941						136
Monument, *Lea*	1935	474	25	499	18,200	7,050,125	73,837,809
Paddock, *Lea*	1945	6	5	11	450	64,565	64,565
Penrose-Skelly, *Lea*	1935	190	166	356	2,200	808,161	16,407,946
Red Lakes, *Eddy*	1924		44	44	600	155,403	939,336
Rhodes, *Lea*	1928	41	2	43	1,000	371,823	2,631,365
Roberts, *Lea*		1	1	2	40	13,966	34,170
Roberts, W., *Lea*	1945	1	1	2	80	18,050	18,050
Robinson, *Eddy*	1926		15	15	150	41,464	524,312
Russell, *Eddy*	1942	2	22	24	425	117,389	197,855
Salt Lake, *Lea*	1941		9	9	125	50,140	246,905
San Simone, *Eddy*	1943		2	2	12	4,405	23,588
Shugart, *Eddy*	1938	7	4	11	250	85,761	1,128,144
Shugart, N, *Eddy*		14	7	21	150	55,272	
Skaggs, *Lea*	1937	2	1	3	50	29,301	218,777
Skaggs, Deep, *Lea*	1944	1	1	2	150	47,667	48,349
Square Lake, *Eddy*	1942	179	5	184	2,600	1,006,841	3,530,782
Tonto, *Lea*	1944	1		1	50	22,943	30,347
Turkey Track, *Eddy*	1943	7	3	10	75	27,710	38,739
Vacuum, *Lea*	1928	224	135	359	11,200	4,474,274	30,996,679
Young, *Lea*	1945	1		1	50	13,476	13,476
Unclassified, S.E., New Mex.		121	41	162	1,675	548,381	2,639,492
Total S. E., New Mexico		2,815	1,463	4,278	97,488	36,857,998	451,490,343
NEW YORK							
Allegany Field			17,325	17,325	9,975		
Rest of State			4,300	4,300	2,650		
Total New York			21,625	21,625	12,625	4,647,000	154,196,000
OHIO							
Total Ohio		46	23,029	23,075	7,600	2,835,000	604,524,000
OKLAHOMA							
(Okla. Corp. Com'sn. reports 1337 Flowing Wells: 1125 shown below by fields; 212 undistributed.)							
Oklahoma Summary—							
Central Oklahoma				1,852	19,100	7,074,795	200,518,029
East Central Oklahoma				5,485	6,500	2,602,450	320,732,712
East Central, (*Creek County*)				5,701	23,400	8,942,865	808,467,292
Northeastern Oklahoma				14,520	9,800	3,909,150	372,909,028
Northern Oklahoma				1,561	20,400	7,979,377	360,316,378
Oklahoma City Area				1,710	126,700	42,603,165	704,426,639
Osage County Area				7,953	27,500	10,296,650	624,044,085
Seminole Area				4,602	56,200	21,394,840	1,253,172,734
Southeastern Oklahoma				1,779	33,800	12,518,690	176,789,487
Southwestern Oklahoma				7,536	62,200	22,057,315	630,927,955
Total Oklahoma		1,337	51,362	52,699	385,600	139,379,297	5,452,304,339
Central Oklahoma							
Chandler, *Lincoln*	1924			50	530	210,970	12,789,863
Davenport, *Lincoln*	1924			134	1,985	291,270	12,733,846
Davenport, N., *Lincoln*	1941			2	8	2,920	69,728
Davenport, W., *Lincoln*	1940			10	240	28,470	169,759
Hoyt, *Lincoln*	1935			7	94	38,325	1,476,377
Laffoon, *Lincoln*	1932			11	370	168,630	2,614,835
Sac and Fox, *Lincoln*	1924			139	320	114,610	3,772,326
Skellyville, *Lincoln*	1925			10	35	16,060	1,851,805
Stroud, *Lincoln*	1923			39	1,750	311,710	9,694,043
Wellston, N., *Lincoln*	1936			6	15	10,950	1,518,376
Wilzetta, *Lincoln*	1934			13	575	93,805	1,331,669
Wilzetta, S., *Lincoln*	1936			6	210	80,300	539,380
Cleveland, *Pawnee*	1926			212	330	126,655	40,696,057
Jennings, *Pawnee*	1916			65	130	49,275	4,199,406
Keystone, *Pawnee*	1919			225	270	103,660	2,993,174
Lauderdale, *Pawnee*	1915			172	520	192,355	14,159,068
Maramec, *Pawnee*	1920			78	355	125,560	3,516,415
Terlton, *Pawnee*	1912			13	53	18,250	941,698
Terlton, N., *Pawnee*	1917			71	115	40,150	3,342,077
Watchorn, *Pawnee*	1922			14	153	60,590	7,773,523
Watchorn, E., *Pawnee*	1942	14	12	26	2,050	831,835	3,175,201
Coyle, *Payne*	1938			31	2,440	991,340	8,002,744
Coyle, N., *Payne*	1942			1	20	6,570	55,524
Garr, *Payne*	1920			31	290	104,755	2,961,851
Ingalls, *Payne*	1914	3	21	24	228	87,235	6,500,902
Mehan, *Payne*	1925			1	2	730	2,341,048
Orlando, *Payne*	1929			2	65	21,900	1,074,652
Orlando, E., *Payne*	1941			3	60	19,345	232,858
Ramsey, *Payne*	1938			41	2,650	999,370	10,417,821
Ripley, *Payne*	1923			4	20	11,315	460,028
Ripley, N., *Payne*	1923			2	32	17,155	2,291,784
Yale-Quay, *Payne*	1914			103	1,750	595,680	24,440,232
Unclassified, Central Okla.				246	1,435	1,303,050	12,379,959
Total Central Oklahoma				1,852	19,100	7,074,795	200,518,029
East Central Oklahoma							
Cary, *Okfuskee*	1923			11	95	31,755	1,209,858
Midwest, *Okfuskee*	1942			4	68	21,900	106,952
Okemah, E., *Okfuskee*	1940			7	85	37,960	448,530
Okemah, N., *Okfuskee*	1941			11	110	38,940	272,816
Okemah, W., *Okfuskee*	1941			1	4	1,460	51,196
Okfuskee, *Okfuskee*	1938			5	24	7,665	151,151
Weleetha, *Okfuskee*	1913			76	360	130,670	6,643,704
Weleetka, S., *Okfuskee*	1937			3	2	730	63,223
Weleetka, W., *Okfuskee*	1926			15	175	67,525	1,079,563
Bald Hill, *Okmulgee*	1908			703	640	263,530	50,443,260
Morris, *Okmulgee*	1907			198	270	100,010	25,340,597
Okmulgee, *Okmulgee*	1921			138	145	51,830	10,460,832
Pollyanna, *Okmulgee*	1921			186	245	94,170	2,923,902
Bird Creek, *Tulsa*	1906			1,374	845	306,965	71,658,198
Jenks, *Tulsa*	1901			298	235	76,650	26,830,970
Turley, *Tulsa*	1914			326	208	75,920	6,096,737
Wicey, *Tulsa*	1915			83	135	50,005	2,724,155
Stone Bluff, *Wagoner*	1915			156	268	92,345	4,390,239
Unclassified, E. Cent. Okla.				1,890	2,586	1,152,420	109,836,829
Total E. Cent. Okla.				5,485	6,500	2,602,450	320,732,712
East Central, Creek County							
Bowden, *Creek*	1906			213	307	104,390	21,347,537
Bristow, *Creek*	1916			122	745	273,020	38,638,606
Cushing, *Creek*	1912			1,681	7,650	2,814,150	371,156,289
Depew, *Creek*	1915			72	860	302,220	37,707,763
Glenn, *Creek*	1905			1,782	6,610	2,359,360	228,307,735
Manford, Shallow, *Creek*	1922			217	387	136,510	6,362,400
Manford, Deep, *Creek*	1937			5	72	24,820	539,865
Olive, *Creek*	1914			177	245	88,695	5,272,492
Slick, *Creek*	1913			170	1,095	370,110	35,087,943
Stroud, E., *Creek*	1940			34	155	68,985	937,087
Stroud, S. E., *Creek*	1943			78	1,915	877,825	1,581,493
Tuskegee, *Creek*	1925			6	3	730	496,110
Tuskegee, E., *Creek*	1925			23	210	82,490	1,407,486
Wilcox, *Creek*	1919			54	360	135,780	4,420,272
Unclassified, E. Cent. Crk. Co.				1,067	2,786	1,303,780	55,204,214
Total E. Cent., Creek Co.				5,701	23,400	8,942,865	808,467,292
Northeastern Oklahoma							
Craig, Nowata, Rogers and Washington Counties				14,520	9,800	3,909,150	372,909,028
Northern Oklahoma							
Garber, *Garfield*	1916			538	1,515	593,855	57,565,273
New Garber, *Garfield*	1945	2		2	165	41,245	41,245
Deer Creek, *Grant*	1922			10	73	26,645	1,417,422
Lamont, *Grant*	1937			abn'd			788,843
Blakwell, *Kay*	1918			36	305	114,610	5,665,392
Braman, *Kay*	1924			22	110	42,705	4,861,022
Braman, N., *Kay*	1924			44	448	174,470	18,990,909
Braman, S. E., *Kay*	1938			4	77	32,120	530,660
Dilworth, *Kay*	1917			79	555	192,720	6,210,997
Hubbard, *Kay*	1924			32	325	121,910	8,905,331
Ponca City, *Kay*	1917			40	178	66,065	6,711,731
Thomas, *Kay*	1914			12	184	70,080	7,479,625
Tonkawa, *Kay*	1921			138	1,045	385,075	123,259,354
Vernon, *Kay*	1925			27	290	106,215	3,856,740
Crescent, *Logan*	1933			110	4,345	1,845,440	18,016,264
Crescent, E., *Logan*	1944			3	48	23,725	50,771
Crescent, S., *Logan*	1942			4	47	16,790	67,762
Evansville, N. W., *Logan*	1945			2	350	14,600	14,600
Guthrie, *Logan*	1941			29	445	213,525	3,103,836
Langston, *Logan*	1934			13	245	95,265	2,030,151
Langston, S., *Logan*	1935			1			53,035
Lovell, *Logan*	1928			13	92	22,630	2,774,122
Lovell, S., *Logan*	1934			14	405	176,660	974,633
Marshall, *Logan*	1927			21	126	42,705	11,968,423
Navina, *Logan*	1941						475
Navina, W., *Logan*	1942			7	104	36,865	317,763

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The trust method of transferring property

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The trust method enables the oil man to put money aside where it will be safe and on an earning basis—safe for himself after his venturesome business deals are over; safe to provide the members of his family their accustomed standards of living, maintaining their place in society, and completing the education of the children and giving them a favorable start in life.

Business ventures of large proportions can be engaged upon without hesitation, if a part of one's fortune is placed beyond the effect of adverse circumstances and heavy risks. The trust method is a means of providing such protection. When a man knows he has this backlog of protection, he can devote himself constructively and unhesitatingly to new ventures without giving constant care and attention to his private affairs. Success is more certain when a man knows that his business risks do not involve his entire fortune or jeopardize the happiness and future security of himself and family.

Many oil men and leaders in all types of business are protecting their fortunes through the use of trusts. The future is too uncertain and the risks too great to overlook any means of protection to yourself and your family. The officers of our long established Trust Department are always glad to discuss your estate plans with you, without obligation.

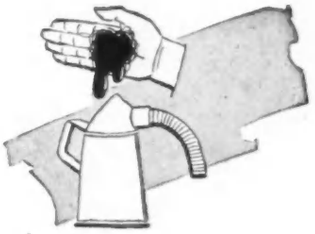
HOUSTON BANK & TRUST COMPANY

Established 1875

MAIN AT FRANKLIN — HOUSTON, TEXAS

MEMBER FEDERAL RESERVE SYSTEM • MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

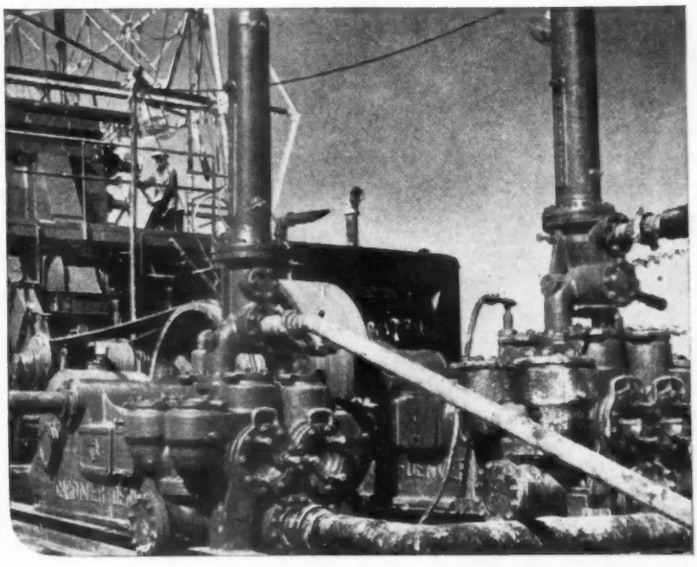
Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
OKLAHOMA—Continued							
Ringwood, *Marshall*	1945			1	42	5,475	5,475
Billings, Deep, *Noble*	1935	18	55	73	3,160	1,292,465	17,806,021
Billings, Shallow, *Noble*	1917			6	7	3,285	6,228,368
Billings, W., *Noble*	1945			1	300	9,125	9,125
Lucien, *Noble*	1932			120	2,550	993,530	33,281,822
Lucien, N., *Noble*	1936			10	205	77,015	1,445,404
Lucien, N. E., *Noble*	1942			5	240	105,485	537,151
Otoe City, E., *Noble*	1943			8	300	117,165	603,216
Polo, *Noble*	1934			25	425	137,240	4,788,451
Polo, S., *Noble*	1945			1	85	17,155	17,155
Red Rock, *Noble*	1945			1	130	9,125	9,125
Unclassified, N. Oklahoma				109	1,497	756,392	9,928,686
Total Northern Oklahoma				1,561	20,400	7,979,377	360,316,378
Oklahoma City Area							
Corbett, W., *Cleveland*	1945			1	75	22,995	22,995
Moore, *Cleveland*	1935			21	645	255,865	9,379,085
Moore, S., *Cleveland*	1944	19	5	24	4,200	751,170	830,958
Moore, W., *Cleveland*	1943	15	5	20	3,350	640,575	933,471
Arcadia, N. E., *Oklahoma*	1944	4	1	5	835	283,605	376,203
Bethany, *Oklahoma*	1945			3	125	15,695	15,695
Britton, *Oklahoma*	1935			20	265	83,220	2,791,652
Britton, S., *Oklahoma*	1938			3	68	24,090	260,513
Edmond, *Oklahoma*	1930			70	1,725	654,445	21,444,022
Edmond, N. E., *Oklahoma*	1941			22	638	248,200	846,689
Edmond, W., *Oklahoma*	1928	630	68	698	81,500	26,547,910	34,753,272
Oklahoma City, *Oklahoma*	1928			808	32,950	12,968,085	631,882,458
Unclassified, Okla. City Area				15	324	107,310	889,626
Total Okla. City Area				1,710	126,700	42,603,165	704,426,639
Osage County Area							
Almeda, *Osage*	1918			69	5	3,285	427,399
Atlantic, *Osage*	1924			88	730	267,545	5,440,236
Avant, *Osage*	1904			766	1,950	750,440	96,999,237
Black Dog, W., *Osage*	1945			6	600	64,970	64,970
Burbank, *Osage and Kay*	1920			1,688	8,145	3,127,685	218,039,084
Burbank, S., *Osage*	1926			222	6,150	2,370,310	41,017,184
Flat Rock, *Osage*	1906			578	620	222,650	41,292,969
Naval Reserve, *Osage*	1933			231	1,585	607,725	20,034,678
Osage City, *Osage*	1904			201	515	183,960	53,601,189
Osage Hominy, *Osage*	1917			138	660	237,615	7,808,146
Wilhorse, *Osage*	1912			388	555	202,575	14,880,809
Unclassified, Osage Co. Area				5,578	5,985	2,257,890	124,438,184
Total Osage Co. Area				7,953	27,500	10,296,650	624,044,085
Seminole Area							
Adams, *Hughes*	1935			10	490	179,945	2,228,914
Fish, *Hughes*	1934			137	1,115	466,835	19,798,443
Furman, *Hughes*	1925			1	4	2,555	1,812,951
Holdenville, W., *Hughes*	1916			104	390	149,285	5,979,097
Horns Corner, *Hughes*	1943	11	4	15	960	369,380	968,006
Papoose, *Hughes*	1923			50	315	120,815	22,455,072
Yeager, *Hughes*	1925			4	75	29,200	2,016,871
Yeager, N., *Hughes*	1936			5	65	21,170	215,398
Cromwell, E., *Okfuskee*	1940			71	1,150	481,070	5,340,080
Dill, *Okfuskee*	1931			80	515	194,545	5,527,486
Olympic, *Okfuskee*	1934			316	970	344,560	13,022,892
Rusk, *Okfuskee*	1941			10	435	164,980	1,508,091
Asher, *Pottawatomie*	1929			5	54	24,820	3,743,487
Asher, W., *Pottawatomie*	1930			24	175	64,605	7,792,519
Avoca, *Pottawatomie*	1938			18	125	48,910	1,545,247
Brooksville, *Pottawatomie*	1942			10	180	78,840	730,827
Brooksville, S., *Pottawatomie*	1943			1	27	9,855	53,639
Earlsboro, N.W., *Pottawatomie*	1942			9	95	45,990	310,967
Earlsboro, W., *Pottawatomie*	1927			63	410	153,665	4,035,236
Gray, *Pottawatomie*	1932			24	750	271,195	5,576,541
Hotulke, W., *Pottawatomie*	1941			18	320	127,020	1,775,954
Maud, *Pottawatomie*	1928			52	345	117,165	12,680,677
Maud, S., *Pottawatomie*	1941			8	95	36,135	573,226
Prague, *Pottawatomie*	1940			17	350	121,545	1,275,217
Romulus, *Pottawatomie*	1940			17	134	66,430	1,576,690
Romulus Townsite, *Pottawatomie*	1942			1	22	9,855	57,761
Shawnee, *Pottawatomie*	1934			47	480	172,280	3,739,922
Shawnee, E., *Pottawatomie*	1937			abn'd			65,567
Shawnee, N., *Pottawatomie*	1937			4	190	77,380	725,978
Shawnee, N. E., *Pottawatomie*	1942			7	1,230	417,560	911,100
St. Louis, *Pottawatomie*	1927			601	4,150	1,703,455	167,344,053
St. Louis, E., *Pottawatomie*	1941			8	27	10,950	242,676
St. Louis, N., *Pottawatomie*	1941			32	68	35,770	1,163,441
Tecumseh, E., *Pottawatomie*	1941			5	22	9,490	455,886
Tecumseh Lake, *Pottawatomie*	1941			10	53	33,945	1,201,002
Allen, Deep, *Seminole*	1941			281	3,100	1,175,300	56,292,122
Bethel, *Seminole*	1927			35	108	43,435	2,020,705
Bethel, N., *Seminole*	1925			25	390	153,300	4,654,675
Bethel, N. E., *Seminole*	1941			3	30	11,315	34,686
Bethel, W., *Seminole*	1941			5	136	50,005	457,177
Bowlegs, *Seminole*	1926			198	3,000	1,250,490	125,500,191
Carr City, *Seminole*	1927			65	1,325	514,285	33,118,458
Cheyarha, *Seminole*	1944			60	3,950	730,000	897,914
Cromwell, *Seminole*	1923			222	2,050	796,430	60,194,323
Cromwell, S., *Seminole*	1937			4	110	38,325	650,090
Dora, *Seminole*	1935			102	420	158,775	5,599,113
Earlsboro, *Seminole*	1926			152	1,900	775,625	129,250,686
Earlsboro, E., *Seminole*	1929			62	1,025	387,995	40,552,945
Earlsboro, N., *Seminole*	1936			32	1,005	435,080	8,293,357
Earlsboro, S., *Seminole*	1930			21	370	138,335	9,648,881
Grayson, *Seminole*	1935			30	410	156,220	2,490,239
Grayson, N., *Seminole*	1942			1			4,739
Keokuk, *Seminole*	1933			81	2,050	530,345	14,370,740
Konawa, *Seminole*	1938			86	845	300,760	16,444,824
Konawa, E., *Seminole*	1936			5	16	7,300	238,980
Konawa, W., *Seminole*	1938			17	210	77,380	851,871
Konawa, S., *Seminole*	1938			38	195	78,475	1,546,109
Little River, *Seminole*	1927			194	2,075	1,212,895	117,789,302
Little River, E., *Seminole*	1928			59	335	125,195	17,334,733
Little River, N., *Seminole*	1941			5	260	90,885	612,616
Little River, S. E., *Seminole*	1940			4	25	9,125	50,006
Little River, W., *Seminole*	1938			12	130	54,385	1,137,358
Mission, *Seminole*	1928			44	720	264,625	26,733,298
Rosanna, *Seminole*	1924			20	136	54,020	1,858,202
Sasakwa, *Seminole*	1927			55	625	223,380	11,910,110
Sasakwa, Townsite, *Seminole*	1933			8	195	62,050	2,632,348
Searight, *Seminole*	1926			55	625	237,250	35,402,539
Searight, E., *Seminole*	1939			4	14	6,205	200,781
Searight, N., *Seminole*	1934			12	335	128,115	4,135,415
Semingle City, *Seminole*	1926			177	3,325	1,339,185	135,609,155
Seminole, E., *Seminole*	1926			85	1,750	322,660	9,597,378
Seminole, N., *Seminole*	1940			7	40	17,885	143,911
Seminole, W., *Seminole*	1935			33	815	310,250	14,953,103
Sylvian, *Seminole*	1941			7	340	111,690	356,339
Sylvian, N. E., *Seminole*	1935			2	20	6,570	45,904
Traugh, Deep, *Seminole*	1937			9	55	28,105	1,049,733
Traugh, Shallow, *Seminole*	1937			24	150	54,385	1,101,799
Wewoka, *Seminole*	1923			78	740	281,050	35,234,912
Wewoka, E., *Seminole*	1927			8	62	22,630	1,627,946
Wewoka Lake, *Seminole*	1943			27	975	352,955	545,650
Wewoka, N., *Seminole*	1940			4	55	24,455	342,115
Wewoka, N. E., *Seminole*	1941			32	480	191,625	1,353,651
Wewoka Townsite, *Seminole*	1923			21	260	97,455	6,425,368
Unclassified, Seminole Area				307	2,325	1,795,435	13,424,623
Total Seminole Area				4,602	56,200	21,394,840	1,253,172,734
Southeastern Oklahoma							
Aylesworth, S. E., *Bryan*	1945	3	6	9	660	51,465	51,465
Ardmore, *Carter*	1942			2	155	58,400	213,719
Brock, *Carter (E. ½)*				127	190	73,000	3,860,192
Caddo, *Carter*	1939			1	28	8,030	66,338
Caddo, Deep, *Carter*	1942			abn'd			149,583
Centrahoma, *Coal*	1937			3	45	16,425	163,243
Pauls Valley, *Garvin*	1942	91		91	8,100	3,180,975	9,907,461
Pauls Valley, E., *Garvin*	1944	63	22	85	3,650	1,264,360	1,505,945
Cumberland, *Marshall*	1940	109	24	133	11,250	4,119,390	17,829,771
Madill, *Marshall*	1925			41	13	5,840	1,147,786
Allen, Shallow, *Pontotoc*	1913			177	240	80,665	9,106,275
Bebee, *Pontotoc*	1933			209	1,950	723,065	15,551,879
Bebee, E., *Pontotoc*	1930			20	105	36,865	548,607
Fitts, *Pontotoc*	1933			575	4,050	1,700,900	102,248,406
Fitts, N., *Pontotoc*	1934			15	52	18,980	626,316
Fitts, S., *Pontotoc*	1937			22	85	33,945	622,784
Fitts, W., *Pontotoc*	1937			11	105	34,675	590,091
Jesse, *Pontotoc*	1935			56	1,450	526,330	7,324,006
Roper, *Pontotoc*	1942			6	110	38,690	200,660
Steedman, *Pontotoc*	1920			1			23,310
Unclassified, S. E. Oklahoma				195	1,562	546,690	5,051,650
Total S. E. Oklahoma				1,779	33,800	12,518,690	176,789,487
Southwestern Oklahoma							
Apache, *Caddo*	1941	27	6	33	6,275	2,307,895	8,819,616
Cement, *Caddo*	1917	71	355	426	14,750	5,165,115	38,071,866
Fox (Old Prod., and Deep), *Carter (W. ½)*	1917			91	598	219,000	15,609,579
Graham, *Carter*	1917			255	955	348,210	27,725,520
Healdton, *Carter (W. ½)*	1913			1,868	6,725	2,422,870	200,918,047
Hewitt, *Carter, (W. ½)*	1919			891	4,725	1,803,830	102,047,028
Lone Grove, *Carter*	1944	40		40	3,775	983,675	1,182,446
Sholem Alechem, *Carter, (W. ½)*	1923			302	2,050	751,170	41,061,531
Tatums, *Carter, (W. ½)*				210	1,525	563,560	18,503,422
Tussy, *Carter, (W. ½)*	1933			131	2,475	893,155	8,271,667
Wildcat Jim, *Carter, (W. ½)*	1914			97	1,545	540,200	18,906,752
Walters, *Cotton*	1917			211	585	222,650	26,441,948
Hoover, N. W., *Garvin*	1944			24	675	224,475	326,434
Robberson, *Garvin*	1921			166	680	253,675	16,304,553
Knox, *Grady*	1924			177	1,070	390,915	16,874,817
Altus, *Jackson*	1934			117	355	137,605	2,244,148
Tipton, *Jackson*	1935			57	265	95,630	2,173,533
Oscar, *Jefferson*	1924			191	905	329,595	11,708,473
Hobart, *Kiowa*	1939			23	85	34,675	1,499,453
Lindsay, N., *McClain*	1945	1		1	295	33,945	33,945
Washington, *McClain*	1944			3	505	118,970	148,714
Comanche, *Stephens*	1918			136	320	118,990	10,946,594
Duncan, N., *Stephens*	1920			82	285	109,135	4,709,729
Duncan, W., *Stephens*	1919			90	2,420	732,555	7,194,435
Empire, *Stephens*	1920			241	1,045	378,140	16,248,558
Loco, *Stephens*	1915			108	355	113,515	1,851,763



You wouldn't mix SLUSH with OIL . . .

. . . no, not if you could help it. But unless your slush pump is built to keep mud and water where they belong, they will enter the power end to play havoc with bearings and gears.

The Gardner-Denver "FX" Power Slush Pump is built to prevent mud and water from entering the power end. Water-flushing pipes keep the rods clear of any mud escaping from fluid end stuffing box. A mud stop head, a water deflector and an oil stop head remove any water and any particles of mud that might remain. No mud—no water can be carried along the piston rod to be mixed with the crankcase oil.



The Gardner-Denver "FX" Power Slush Pump is built for long service

- Fluid cylinders, frames and other parts cast in GarDurloy for extra strength and resistance to wear.
- Divided fluid cylinder construction—no inner baffles to be cut through by mud.
- Rugged main frame cast in one piece for greater resistance to shock loads.
- Positive flood type lubrication to all working parts.
- "Slush-proof," hardened liners, rods and valves.

For complete information, write Gardner-Denver Company, Quincy, Illinois. Dallas, Houston, Tulsa, St. Louis, Los Angeles, San Francisco, New York, Chicago, Pittsburgh, Denver; Continental Supply Co., Continental Bldg., Dallas, Texas; Republic Supply Company (of California), 2122 E. 7th Street, Los Angeles, California.

GARDNER-DENVER

Since 1859

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
OKLAHOMA—Continued							
Loco, W., *Stephens*	1941			93	585	223,380	840,051
Milroy, Shallow, *Stephens*	1916			141	250	87,235	3,739,657
Milroy, Deep, *Stephens*	1937			1	150	59,495	777,545
Velma, *Stephens*	1917			769	3,035	1,024,190	8,984,388
Velma, Deep, *Stephens*	1942	4		4	13	5,475	26,071
Fredrick, *Tillman*	1937			3	12	4,745	48,209
Fredrick, W., *Tillman*	1937			25	610	209,875	3,537,345
Unclassified, S. W. Okla				529	2,302	1,149,750	13,150,118
Total S. W. Oklahoma				7,536	62,200	22,057,315	630,927,955
PENNSYLVANIA							
Total Pennsylvania			83,230	83,230	34,125	12,522,000	1,063,584,000
TENNESSEE							
Total Tennessee, *Clay, Fentress, Morgan, Pickett, Scott*			24	24	35	12,000	460,000
TEXAS SUMMARY—							
East Texas Field		14,767	9,273	24,040	307,000	131,064,282	2,236,183,407
Rest of Eastern Texas		1,457	3,012	4,469	132,000	49,583,452	719,304,613
North Texas		2,009	25,289	27,298	149,588	51,085,730	1,312,797,166
Texas Panhandle		47	5,869	5,916	81,000	31,541,452	538,789,998
West Texas		8,432	9,519	17,951	465,624	174,298,997	1,712,135,391
Upper Texas Gulf Coast		6,282	3,312	9,594	467,898	190,617,505	2,059,484,521
Lower Texas Gulf Coast		3,681	1,608	5,289	219,358	85,768,127	570,633,587
Southwest Texas		1,174	4,740	5,914	77,661	28,872,875	328,072,892
South Central Texas		65	3,077	3,142	16,862	6,867,456	243,213,140
Total Texas		37,914	65,699	103,-613	1,916,-991	749,699,966	9,720,614,715
East Texas Field							
East Texas Field, *Rusk, Gregg, Upshur, Smith, Cherokee*	1930	14,767	9,273	24,040	307,000	131,064,282	2,236,183,407
Rest of Eastern Texas							
Bazette, *Henderson*	1939		6	6	40	8,429	300,675
Beulah, *Angelina*	1938			abn'd			3,000
Boggy Creek, *Anderson-Cherokee*	1927		13	13	100	44,236	5,266,528
Buffalo, *Leon*	1938	2		2	24	3,646	4,769
Calvert, *Robertson*	1944		7	7	275	57,285	57,751
Campbell, *Hunt*	1943		2	2	150	60,538	142,485
Camp Hill, *Anderson*	1935			abn'd			293,000
Carthage, *Panola*	1944	71		71	1,453	455,775	459,800
Cayuga, *Anderson-Henderson*	1934	91	184	275	6,833	2,676,642	35,382,974
Cayuga (Trinity Sand) *Anderson*	1939	1		1	15	5,162	34,215
Cedar Creek, *Limestone*	1927			abn'd			298,000
Chapel Hill, *Smith*	1940	59	8	67	1,804	752,136	5,027,689
Coke, *Wood*	1942	17	14	31	2,155	834,725	2,169,212
Concord, *Anderson*	1942			abn'd			11,361
Corsicana, Shallow, *Navarro*	1895		613	613	340	124,678	17,174,059
Currie, *Navarro*	1921		13	13	75	26,731	7,016,139
Eylau, *Bowie*	1944	1		1	150	38,217	41,016
Fairfield, *Freestone*	1945	1		1	9	7,004	7,004
Flag Lake, *Henderson*	1937		9	9	65	23,554	602,186
Fruitvale, *Van Zandt*	1944		2	2	50	21,264	33,345
Ginther, *Angelina*	1937		4	4	8	3,080	46,383
Grapeland, *Houston*	1938	21		21	12	5,259	178,039
Groesbeck, *Limestone*	1942						3,850
Groesbeck, Glenrose, *Limestone*	1944						1,658
Groesbeck, South	1945	2		2	2	586	586
Hawkins, Wood	1940	386	31	417	33,000	12,350,287	46,861,163
Henderson, *Rusk*	1943	13		13	534	154,079	238,330
Huntington, *Angelina*	1938		1	1	4	1,305	12,013
Joaquin, *Shelby*	1945	10		10	54	25,263	25,263
Kildare, *Cass*	1942	23	9	32	650	294,300	1,614,078
Larissa, *Cherokee*	1942	1		1	15	9,054	31,853
Larue, *Henderson*	1945	1		1	178	49,462	49,462
Lone Star, *Cherokee*	1938	2	4	6	395	95,301	207,893
Long Lake, *Anderson*	1933	129	51	180	4,819	1,752,947	10,977,989
Long Lake, E. *Anderson*	1941	12	6	18	780	265,523	788,503
Lott, *Falls*	1937			abn'd			32,240
Mabank, *Henderson*	1939			abn'd			83,672
Marion Shallow, *Marion*	1910		38	38	125	45,734	433,602
Manziel, *Wood*	1943	20	10	30	1,652	605,754	1,161,654
Merigale	1944	4	2	6	300	54,030	54,760
Mexia, *Limestone*	1916		176	176	1,200	479,154	99,934,993
Myrtle Springs, *Van Zandt*	1944		1	1	15	5,670	9,055
Nacogdoches, *Nacogdoches*	1865		38	38	2	921	333,347
Navarro Crossing, *Houston*	1938	18	11	29	254	120,619	1,003,954
New Hope, *Franklin*	1943	43	30	73	3,000	1,608,054	2,721,171
Nigger Creek, *Limestone*	1926			abn'd			3,012,093
Oakwood, *Leon*	1939	5		5	10	1,738	16,069

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
TEXAS—Continued							
Opelika, *Henderson*	1937			abn'd			33,259
Panola (Bethany), *Panola*	1938	47	4	51	81	38,055	102,997
Percilla, *Houston*	1937			abn'd			30,380
Pickering (Ashton), *Shelby*	1942			abn'd			1,004
Pickton, *Hopkins*	1944	13		13	1,200	346,430	354,577
Pittsburg, *Camp*	1940		24	24	1,000	430,711	1,078,217
Pleasant Grove, *Rusk*	1941	2	5	7	200	76,320	295,996
Pleasant Grove, Shallow, *Rusk*	1942		1	1	6	3,293	25,555
Post Oak, *Falls*	1937			abn'd			3,565
Potter, *Marion*	1911		28	28	45	18,002	3,130,134
Powell, *Navarro*	1900		148	148	1,200	450,157	117,295,100
Quitman, *Wood*	1944	55	9	64	6,050	2,162,451	4,879,364
Red Lake	1945					249	249
Redland (Davisville), *Angelina*	1939			abn'd			60
Rice, *Navarro*	1938			abn'd			64
Richland, *Navarro*	1924		4	4	20	8,721	6,707,848
Rodessa, *Cass*	1935	81	297	378	3,698	1,453,436	56,726,055
Rusk, *Cherokee*	1934			abn'd			268,264
Sand Flat, *Smith*	1944	9	2	11	450	132,751	192,181
Satin, *Falls*	1938			abn'd			140
Shelbyville, *Shelby*	1917		1	1	5	1,589	7,915
South Bosque, *McLennan*	1902		35	35	7	2,568	26,473
Stewart Mills	1945	1		1	1	998	998
Sulphur Bluff, *Hopkins*	1936		69	69	3,500	1,338,777	13,795,170
Tacoma, *Panola*	1934			abn'd			20,220
Talco, *Titus-Franklin*	1936	7	718	725	24,500	8,223,649	84,275,488
Tehuacana, *Limestone*	1940		3	3	10	2,979	53,602
Tri-Cities, *Henderson*	1943	6		6	615	107,068	197,523
Tyler, S., *Smith*	1944	2		2	400	84,158	115,759
Tundra	1945		1	1	9	2,996	2,996
Van, *Van Zandt*	1929	270	297	567	26,500	10,948,396	160,839,624
Van, Shallow, *Van Zandt*	1933		30	30	55	20,637	391,707
Waskon, *Harrison*	1938	19	13	32	234	130,875	237,872
Whelan, *Harrison*	1945	1		1	9	3,411	3,411
Wieland, *Hunt*	1942		10	10	460	171,314	459,181
Willow Springs, *Gregg*	1938	2		2	28	10,946	43,085
Winnsboro, *Wood*	1944	9	1	10	980	258,161	278,891
Wortham, *Freestone-Limestone*	1916		29	29	220	83,212	23,270,808
Total Eastern Texas except East Texas Field		1,457	3,012	4,469	132,000	49,583,452	719,304,613
North Texas							
Archer County	1913	139	3,802	3,941	22,000	7,924,533	162,145,166
Baylor County			171	171	1,500	574,818	7,782,005
Brown County	1902	5	821	826	934	346,955	32,450,045
Callahan County	1916	3	1,080	1,083	500	196,092	15,908,746
Clay County	1902	41	1,157	1,198	9,600	3,405,463	22,583,944
Coleman County	1902	136	342	478	3,422	1,112,711	14,863,108
Comanche County	1919	19	129	148	171	62,734	2,015,251
Concho County	1902						2,315
Cooke County	1902	43	1,304	1,347	12,400	4,566,962	38,036,726
Denton County	1937		1	1	3	643	17,651
Eastland-Erath Counties	1917	35	399	435	2,068	765,395	101,837,506
Fisher County	1928		142	142	1,000	382,005	14,655,450
Foard County	1929	1	14	15	135	47,475	2,226,689
Grayson County	1937	1		1	3	1,866	50,819
Hamilton County		2		2	1	42	42
Hardeman County	1944		1	1	2	604	1,539
Haskell County	1929	1	12	13	45	17,019	254,094
Jack County	1902	62	791	853	6,100	2,264,794	26,836,322
Jones County	1926	240	676	916	11,000	3,823,123	32,943,969
King County	1943		13	13	550	234,396	277,755
Lamb County	1944	1	7	8	700	61,075	61,510
McCulloch County	1935						2,223
Montague County	1902	145	1,157	1,302	16,500	5,843,922	52,189,005
Nolan County	1939						3,243
Palo Pinto County	1902	7	96	103	202	77,072	5,410,821
Runnels County	1927	4	10	14	107	37,054	1,210,078
Shackelford County	1910	32	2,016	2,048	4,101	1,534,519	49,498,555
Stephens County	1916	48	602	650	3,824	1,404,125	133,928,178
Stonewall County	1936		6	6	30	20,966	252,406
Taylor County	1929	53	51	104	2,601	572,747	1,994,911
Throckmorton County	1924	4	282	286	800	282,014	4,576,130
Wichita County	1911	763	6,275	7,038	30,700	12,114,860	416,005,155
Wilbarger County	1924	21	1,681	1,702	9,000	3,409,746	87,015,785
Wise County	1942						1,463
Young County	1926	202	2,251	2,453	9,589		85,758,561
Total North Texas		2,009	25,289	27,298	149,588	51,085,730	1,312,797,166
Texas Panhandle							
Carson County	1923	12	762	774	11,900	3,877,465	54,829,848
Gray County	1925	8	2,563	2,571	38,300	15,532,769	248,760,255
Hutchinson County	1922	24	2,180	2,204	27,900	10,983,391	201,944,554
Moore County	1927	3	14	17	300	137,555	5,767,236
Potter County	1918						44,000
Wheeler County	1925		350	350	2,600	1,010,272	27,444,105
Total Texas Panhandle		47	5,869	5,916	81,000	31,541,452	538,789,998

McKISSICK

Safety

TUBING BLOCK

The non detachable guards provide permanent safety. Latch type becket eliminates possibility of elevator links or hook becoming detached. To thread this block it is only necessary to remove one bolt, which allows plate to swing. Elevator links or hook may be inserted without removing becket from block. Furnished with high load roller bearings or high speed bronze bushings, with regular latch type becket or Universal ball bearing swivel becket and with any number of sheaves.

Catalog on Request

McKISSICK PRODUCTS CORPORATION

BOX 2496

TULSA, OKLAHOMA

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
WEST TEXAS							
Abell, *Pecos*	1940	77	9	86	2,100	774,626	3,785,259
Abel, Permian, *Pecos*	1941	9	14	23	325	127,015	455,034
Alex	1945	1	2	3	35	2,314	2,314
Anthony (Toyah), *Reeves*	1939			abn'd			2,201
Apco-Warner, *Pecos*	1939	44	2	46	2,100	738,571	1,970,947
Barnhart, *Reagan*	1941	37	2	39	4,750	1,649,293	2,934,070
Bean, *Crockett*	1941			abn'd			3,864
Bedford, Devonian, *Andrews*	1945	1		1	100	9,893	9,893
Bedford, Ellenburger, *Andrews*	1945	1		1	50	5,577	5,577
Big Lake, *Reagan*	1923	11	186	197	3,650	1,399,975	105,365,339
Blackwell, *Coke*	1942		1	1	3	1,391	7,801
Brahaney, *Yoakum*	1945		1	1	25	2,877	2,877
Byrd, *Ward*	1942	5	2	7	70	31,685	129,366
Carter, *Glasscock*	1937			abn'd			30,772
Cedar Lake, *Gaines*	1939		56	56	2,100	768,285	2,576,139
Chancellor, *Pecos*	1942	1	1	2	45	18,649	80,826
Clabber Hill, *Andrews*	1943	1	1	2	145	10,500	27,863
Clara Couch, *Crockett*	1941	2	12	14	300	95,451	186,925
Crane-Cowden, *Crane- Upton*	1925	2	90	92	350	135,686	5,85[illegible],156
Cowden, N., *Ector*	1930	369	282	651	23,900	9,995,599	47,137,135
Cowden, N., Deep, *Ector*	1939	10	1	11	550	129,751	304,623
Cowden, S., *Ector*	1933	60	70	130	3,700	1,376,285	6,456,423
Cravens, *Lubbock*	1945					4,055	4,055
Crockett, (S. McCamey), *Crockett*	1938	8	34	42	325	120,406	653,343
Crossett, *Crane*	1944	9		9	300	151,674	181,522
Crossett, 3200-ft., *Crane*	1945	1		1	20	9,418	9,418
Dean, *Cochran*	1938	4	15	19	550	185,467	442,226
Deep Rock, *Andrews*	1933	2	11	13	100	35,579	819,985
Dobbs, *Ward*	1936		1	1	5	1,688	25,497
Dollar Hide, *Andrews*	1945	1		1	75	9,987	9,987
Doss (Eubanks)	1944	1	1	2	100	40,721	41,749
Duoro, *Ector*	1941			abn'd			552
Dune, (N. Church & Fields), *Crane*	1938	7	23	30	475	195,328	1,131,359
Eaves, *Winkler*	1936	5	18	23	1,800	710,483	2,088,2[illegible]
Eden, *Concho*	1945		1	1	25	1,525	1,525
Edwards, *Crane*	1935		1	1	8	2,843	26,174
Embar, Ellenburger, *Andrews*	1942	24		24	3,050	1,236,722	2,693,171
Embar, Permian, *Andrews*	1942	11	3	14	600	244,361	824,594
Emma, *Ector*	1937	4	72	76	2,500	1,063,992	3,560,643
Emperor, Shallow, *Winkler*	1935	72	15	87	1,150	418,152	3,747,288
Emperor, Deep, *Winkler*	1935	23	17	4	200	79,05[illegible]	1,238,507
Ft. Stockton, *Pecos*	1944	14	3	17	500	107,161	121,741
Foster, *Ector*	1936	206	388	594	15,500	6,152,95[illegible]	3[illegible],561,330
Fromme, *Pecos*	1939	4	4	8	30	11,801	131,258
Fuhrman, *Andrews*	1930	68	124	192	4,800	1,031,50[illegible]	6,077,825
Fullerton, *Andrews*	1942	281	41	322	28,000	7,041,02[illegible]	10,242,923
Fullerton, 8500-ft., *Andrews*	1944	11		11	1,450	274,326	298,450
Fullerton, San Andres, *Andrews*	1945		1	1	10	2,326	2,326
Funk, *Tom Green*	1940		8	8	11	3,697	5,082
Garza (Post City), *Garza*	1937	6	20	26	900	155,924	205,494
Goldsmith, *Ector*	1935	914	99	1,013	23,700	8,499,277	63,948,199
Goldsmith, N., *Ector*	1940	7	2	9	5	21,214	175,341
Grassroots, *Pecos*	1940			abn'd			442
Grayson (Skelly-Grayson), *Reagan*	1928		8	8	85	31,520	758,922
Grierson Springs, *Reagan*	1944						1,537
Halley (Skelly-Halley), *Winkler*	1934	20	28	48	600	217,807	1,499,102
Harper, *Ector*	1933	14	170	184	1,000	463,482	9,555,718
Heiner, *Pecos*	1941	2		2	12	5,427	31,794
Henderson, *Winkler*	1936	59	50	109	2,900	1,241,873	11,142,442
Hendricks, *Winkler*	1926	36	213	249	3,800	1,530,184	2[illegible],598,424
Herrington, *Upton-Crane*	1938						1[illegible],803
Hoover, *Crockett*	1941						1[illegible],425
Howard-Glasscock Field, *Howard-Glasscock*	1926		865	865	13,500	4,910,253	118,766,902
Hurdle, *Upton-Crane*	1936		12	12	25	10,748	274,905
Iatan-East Howard, *Howard-Mitchell*	1921	3	372	375	3,700	1,569,439	20,651,561
Iatan, N, *Howard*	1943		14	14	200	84,934	188,224
Irion (Mertzon), *Irion*	1929		7	7	15	5,686	148,137
Jamison & Pollard, *Pecos*	1941	1		1	50	12,575	94,267
Johnson, *Ector*	1935	60	67	127	3,900	1,379,330	5,458,477
Jones Ranch, *Gaines*	1945					9,968	9,968
Jordan, *Crane*	1937	142	81	223	5,600	2,307,414	12,067,653
Justiceburg, *Garza*	1937			abn'd			16,416
Kermit, *Winkler*	1926	94	647	741	2,150	889,430	32,681,074
Kermit, Ellenburger, *Winkler*	1943	2	2	4	235	85,706	238,522
Keystone, Colby & Lime, *Winkler*	1935	260	153	413	4,700	1,793,625	14,965,580
Keystone, Ellenburger, *Winkler*	1943	50		50	22,000	4,599,111	5,096,624
Keystone, Holt, *Winkler*	1943	19		19	1,500	432,857	628,508
Keystone, Silurian, *Winkler*	1945	1		1	20	5,873	5,873
Landon (Slaughter, W.), *Cochran*	1945	1		1	10	4,239	4,239
Leck, *Winkler*	1928	3	11	14	700	201,414	4,398,310
Lehn-Apco Warner, 1600-ft, *Pecos*	1939	26	51	77	300	105,545	653,194
Levelland, *Hockley*	1945	1	3	4	75	18,279	18,279
Lion, *Lubbock*	1944	2		2	20	12,687	17,146
Live Oak, *Crockett*	1941					570	5,852
Lubbock, *Lubbock*	1942		1	1	10	2,735	10,[illegible]91
McCamey, *Upton-Crane*	1925	1	851	852	9,050	3,242,053	64,205,698
McElroy, *Crane- Upton*	1926	88	556	644	25,000	10,852,442	154,683,523
McKee, *Crane*	1942		3	3	40		84,731
Mabee, *Andrews*	1944	5	53	58	3,000	1,045,678	1,396,605
Magnolia-Sealy, *Ward*	1939		53	53	300	114,545	1,482,444
Magnolia-Sealy, S., *Ward*	1940	15	4	19	550	221,061	976,895
Martin, *Andrews*	1945	1		1	120	33,118	33,118
Mason, *Loving*	1937	4	5	9	140	51,400	656,105
Masterson, Shallow, *Pecos*	1929		23	23	90	37,373	1,119,274
Masterson, 3500-ft Sand, *Pecos*	1943	1		1	15	16,603	67,018
Means, *Andrews*	1934	48	92	140	3,600	1,258,425	9,418,866
Midland Farms, *Ector*	1944	9	10	19	1,600	450,830	460,090
Monahans, *Ward*	1942	4		4	700	267,395	529,719
Monahans, Clear Fork, *Ward*	1945	1		1	100	17,312	17,312
Monahans, Permian, *Ward*	1942	1		1	30	12,678	42,379
Monahans, N., *Winkler*	1944	6		6	150	82,082	116,591
Monroe, *Ward*	1931	1		1	15	5,732	79,793
Moore, *Howard*	1937		17	17	45	20,129	157,070
Morita, *Howard*	1944		3	3	4	2,019	4,675
Moss, *Ector*	1938			abn'd			1,861
Nettervile, *Pecos*	1936	11	5	16	35	17,486	436,859
Noelke, *Crockett*	1940	28	18	46	700	271,243	927,347
Olson, *Crockett*	1941		19	19	165	59,303	128,698
Opp (El Dorado), *Schleicher*	1939			abn'd			3,142
Ownby, *Yoakum*	1941	29	19	48	1,350	360,932	648,035
Page, *Schleicher*	1937	7		7	60	25,040	177,266
Parker, *Andrews*	1935		2	2	28	9,499	120,300
Pattillos, *Andrews*	1944						2,170
Payton, *Pecos*	1938	9	122	131	525	214,318	3,606,745
Pecos Valley, High Gravity, *Pecos*	1928	40	67	107	375	127,616	2,073,823
Pecos Valley, Low Gravity, *Pecos*	1928	12	54	66	175	72,155	1,267,016
Penwell, *Ector*	1926	72	103	175	3,200	1,147,013	26,614,191
P. H. D	1945					2,592	2,592
Pruitt, *Ward*	1942						3,286
Pyote, *Ward*	1942	2		2	85	33,570	115,140
Rhodes, *Cochran*	1941		1	1	10	3,310	28,238
Richards (Pecos-Courtney), *Pecos*	1929		3	3	7	1,144	19,360
Robertson, *Gaines*	1942	1	1	2	165	51,938	79,854
Rowan Tong, *Pecos*	1929			abn'd			2,000
Russell, *Gaines*	1943	3	8	11	800	243,633	375,591
Sand Hills, McKnight, *Crane*	1944	7	4	11	475	172,459	286,003
Sand Hills, Ordovician, *Crane*	1936	29	2	31	1,480	517,678	1,922,050
Sand Hills, Permian (Tubb), *Crane*	1934	175	51	226	8,000	2,956,250	10,310,018
Sand Hills, West, Ellenburger, *Crane*	1941	8		8	325	97,560	775,401
Sand Hills, West, Permian (Tubb), *Crane*	1943		4	4	25	8,216	14,717
Scanlan, *Dawson*	1938			abn'd			310
Scarborough, *Winkler*	1927	29	100	129	600	264,933	7,885,487
Seminole, *Gaines*	1937	311	18	329	20,000	8,227,666	25,167,878
Shannon, *Crockett*	1943					600	2,994
Sharon Ridge (Ira), *Scurry*	1924	8	188	196	900	324,726	2,361,029
Shearer, *Pecos*	1938	5	41	46	200	84,063	1,544,171
Shipley, *Ward*	1928	13	126	139	1,200	465,344	7,107,711
Shipley, Silurian, *Ward*	1940	2		2	25	10,887	65,885
Signal, *Andrews*	1944						1,640
Simpson, *Crockett*	1938			abn'd			3,955
Slaughter, *Hockley*	1937	1,547	447	1,994	60,000	23,806,436	72,288,989
Smyer, *Hockley*	1944	1	2	3	70	27,561	45,005
Snyder, *Howard*	1936		99	99	425	163,390	2,910,795
Spencer, *Ward*	1941	3	8	11	150	61,545	262,535
Swenson, *Garza*	1939			abn'd			1,515
Tankersly, *Irion*	1945	1		1	90	13,975	13,975
Taylor-Link, *Pecos*	1929	16	126	142	1,000	432,215	9,226,516
Three Bar, *Andrews*	1945	1		1	150	44,765	44,765
Toborg, *Pecos*	1930		259	259	1,150	437,874	8,844,306
Todd, Deep, *Crockett*	1940	36	2	38	2,500	747,569	1,166,434
T. X. L., *Ector*	1945	21	3	24	3,700	538,481	538,481
T. X. L., Ellenburger, *Ector*	1945	2		2	500	90,595	90,595
Union, *Andrews*	1943	22	3	25	1,800	593,568	875,468
Upland, *Upton*	1945		1	1	5	882	882
Vincent, *Howard*	1943		3	3	15	5,670	19,472
Waddell, *Crane*	1927	95	30	125	3,300	1,400,699	7,911,979
Waddell, Ella, *Crane*	1940	1	4	5	85	32,104	147,945
Walker, *Pecos*	1940	60	22	82	1,150	408,672	1,552,854
Waples-Platter, *Yoakum*	1939	3	12	15	200	77,786	233,951
Ward, N., *Estes, Ward*	1934	431	425	856	13,000	4,758,005	52,470,769
Ward, S., *Ward*	1928	70	468	538	1,500	606,115	29,408,190
Wasson, *Gaines- Yoakum*	1936	1,338	189	1,527	47,000	22,625,154	101,362,157
Wasson, Deep, *Gaines*	1941	9		9	450	231,855	348,476
Wasson "72", *Gaines*	1942	9		9	800	191,566	300,209
Webb-Ray, *Upton-Crane*	1935		1	1	5	1,393	61,396
Weiner, *Winkler*	1941	53	8	61	1,300	513,900	1,416,079
Welch, *Dawson*	1941		4	4	175	42,648	68,080
Wentz, *Pecos*	1941		2	2	50	19,772	86,667
West, *Yoakum*	1938		1	1	20	7,966	65,123
West Andrews, *Andrews*	1940	4	13	17	80	29,860	154,651
Westbrook, *Mitchell-Scurry*	1921		159	159	1,400	541,922	11,656,499
Wheat, *Loving*	1926	29	50	79	650	252,310	9,776,695
Wheeler, Devonian, *Winkler*	1945	3		3	300	57,027	57,027
Wheeler, Ellenburger, *Winkler*	1943	12		12	1,900	678,048	1,021,029
White-Baker, *Pecos*	1935	44	2	46	550	179,820	684,174
White-Baker, Lime, *Crockett*		1		1	8	3,289	13,097
World, *Crockett*	1925		94	94	1,800	704,602	9,884,709
Wyatt (Todd), *Crockett*	1932	1		1	18	7,007	52,807
Yates, *Pecos & Crockett*	1926	520	49	569	34,900	13,329,253	301,040,163
Yates, Smith Sand, *Pecos*	1939	2	15	17	200	61,797	653,775
Yellow House, *Hockley*	1944	1	3	4	130	54,062	66,309
Total West Texas	....	8,432	9,519	17,951	465,624	174,298,997	1,712,135,391

Dependable Accurate Portable GRAVITY METER

Mountable in "Jeep" or Sedan . . . Can be carried on horseback or back-pack to remote locations.

Lightweight and compact, the North American Gravity Meter is particularly suitable for operation in the rugged territory. It can be mounted in a small "Jeep" or rear seat of standard sedan, for transporting wherever a car can go, off or on the highway. Readings can be made without removing the meter from the car, simply by extending the tripod through the car floor. When the terrain becomes impassable by car, the meter can be lifted out and carried on the back-pack by one man or on horseback, in a boat, or canoe to the desired location.

The North American Gravity Meter weighs only 28 pounds, without battery. When in a car, it can be operated from the car battery. A motorcycle battery, weighing about 12 pounds, is supplied for portable use. Overall height, including dials and projections is 17 inches. Diameter is 11 inches.

The meter is not affected by outside temperature. It is completely compensated for barometric pressure, so that corrections are unnecessary. Orientation is not necessary, as the system is non-magnetic. All electrical parts are within the meter case, protected from humidity.

Lease or purchase of the North American Gravity Meter enables your field party to make accurate, rapid, gravity meter surveys at a decided saving in cost. Dependability of the Gravity Meter is demonstrated by lack of repairs or service during long periods of operation in the field.

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NORTH AMERICAN GEOPHYSICAL CO.

Gravity-Magnetic-Seismic Surveys *Geophysical Apparatus*

636 Bankers Mortgage Bldg., Charter 4-3523

HOUSTON 2, TEXAS

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
UPPER TEXAS GULF COAST							
Abel Borden, *Wharton*	194[illegible]			abn'd			46,945
Aldine, *Harris*	1939	3		3	80	53,101	25[illegible],422
Aldine, W., *Harris*	1942	1		1		9,41[illegible]	26,750
Alief, *Harris*	1942	1		1		15,924	40,409
Allen, *Brazoria*	1927			abn'd			90,008
Alta Loma, *Galveston*	1940	6		6	325	122,496	993,832
Altair, *Colorado*	1945					18,055	18,055
Amelia, *Jefferson*	1936	104		104	3,700	1,484,022	11,931,571
Anahuac, *Chambers*	1935	336	22	358	24,500	11,116,411	55,613,430
Angleton, *Brazoria*	1939	7		7	8	8,001	877,505
Armour (McCrosky), *Matagorda*	1938		2	2	8	4,290	185,616
Arnim, *Fayette*	1945		3	3	75	10,562	10,562
Arriola, *Hardin*	1932		12	12	240	86,425	2,644,786
Bailey's Prairie, *Brazoria*	1940			abn'd			1,766
Bammel, *Harris*	1937	1			110	40,142	1,047,173
Barbers Hill, *Chambers*	1916	14	107	121	4,800	1,887,187	83,275,942
Batson, Shallow, *Hardin*	1903		122	122	250	103,718	38,591,431
Batson, Deep, *Hardin*	1934		8	8	260	97,146	2,568,179
Bay City, E., *Matagorda*	1945	2		2	8	96,402	96,402
Bay City, N., *Matagorda*	1942	20		20	1,500	566,195	1,139,264
Bay City, *Matagorda*	1934	51		51	3,500	1,405,122	9,653,020
Beech Creek, *Hardin*	1945	2		2	150	65,371	65,371
Beech Creek, N., *Hardin*	1944	1		1	140	45,711	71,895
Big Creek, *Fort Bend*	1922	2	15	17	400	176,002	10,688,437
Big Hill, *Jefferson*	1923			abn'd			14,000
Big Hill, Deep, *Jefferson*	1942	1		1		71	853
Big Hill, *Matagorda*	1904			abn'd			211,000
Bland, *Orange*	1941			abn'd			20,788
Blessing, *Matagorda*	1940			abn'd			25,358
Blue Lake, *Brazoria*	1945	6	1	7	1,050	163,726	163,726
Blue Ridge, *Fort Bend*	1919	5	34	39	500	207,856	12,612,282
Boling, *Wharton-Fort Bend*	1925	9	23	32	800	301,949	8,947,608
Brenham, *Washington*	1915		6	6	6	1,821	391,758
Brookshire, *Waller-Austin*	1934			abn'd			22,420
Brushy Creek, *Lavaca*	1941	2		2	54	27,350	93,307
Buckeye, *Matagorda*	1932		1	1	8	2,820	842,322
Buckeye, S., *Matagorda*	1942		2	2	15	6,683	56,789
Buck Snag, *Colorado*	1942	1		1	5	5,165	22,120
Buttermilk Slough, *Matagorda*	1939			abn'd			10,774
Call, *Newton*	1937			abn'd			11,415
Call, S., *Newton*	1945	1		1		737	737
Camp Eleven, *Tyler*	1942	2		2	145	55,801	331,006
Caplen, *Galveston*	1939	14	1	15	1,000	404,456	1,653,521
Cedar Bayou, *Chambers*	1938	1	1	2	100	15,129	40,361
Cedar Point, *Chambers*	1938	18		18	1,500	541,[illegible]87	3,139,431
Cheek, N., *Jefferson*	1937			abn'd			72,810
Chenango, *Brazoria*	1941	1		1	20	7,393	101,991
Chesterville, *Colorado*	1943	2	1	3	82	13,732	13,732
China, S., *Jefferson*	1939	10	4	14	900	286,092	1,214,266
Chocolate Bayou, *Brazoria*	1939	14		14	474	564,259	1,437,825
Cistern, *Fayette*	1943		4	4	75	21,883	25,792
Clam Lake (McFaddin), *Jefferson*	1937	13	3	16	750	289,124	1,175,610
Clay Creek, *Washington*	1928		46	46	475	211,515	5,416,748
Clear Lake, *Harris*	1938	51	1	52	3,332	1,425,802	6,578,673
Cleveland, *Liberty*	1933	8	4	12	341	171,242	1,909,039
Cleveland, N., (Grogan), *Liberty*	1945		2	2	77	18,706	18,706
Clinton, *Harris*	1936	6	1	7	125	45,383	448,011
Clodine, *Fort Bend*	1941	25		25	741	274,175	1,042,427
Cold Springs, *San Jacinto*	1945	3		3	20	8,653	8,653
Collier, *Jackson*	1942	3		3	120	37,233	102,906
Columbus, *Colorado*	1944	3		3	31	14,643	20,329
Conroe, *Montgomery*	1931	762	144	906	51,026	21,368,098	206,557,353
Conroe, W., *Montgomery*	1941	1		1	25	10,057	41,154
Cordele, *Jackson*	1938	28	17	45	975	358,130	3,361,178
Cotton Lake, *Chambers*	1936	1	4	5	170	67,586	1,091,328
Cotton Lake, S., *Chambers*	1937	7	21	28	702	263,304	3,808,755
Cottonwood, *Liberty*	1943	3		3	100	36,151	88,501
Daboval, *Wharton*	1944	4		4	100	42,541	46,195
Damon Mound, *Brazoria*	1916		26	26	140	58,602	9,997,352
Danbury, *Brazoria*	1934	2	11	13	225	95,578	1,144,474
Danbury, 5655-ft. sand, *Brazoria*	1942	8	1	9	740	271,813	671,742
Danbury, 7625-ft. sand, *Brazoria*	1945	1		1	66	48,372	48,372
Dickinson, *Galveston*	1934	48	11	59	1,714	618,258	10,005,925
Double Bayou, (S. Anahuac), *Chambers*	1943	2		2	600	282,163	745,927
Dyersdale, *Harris*	1940	38	22	60	2,300	753,725	2,826,374
East Bernard, *Wharton*	1940	1		1	1	184	1,395
Edna, *Jackson*	1937	2		2		45	6,027
El Campo, *Wharton*	1944	5		5	270	79,794	103,933
Elm Bayou, *Chambers*	1942	1		1		223	59,842
Esperson, *Liberty*	1929	26	35	61	1,908	702,817	9,353,503
Esperson, S., *Liberty*	1939	25		25	925	317,393	1,890,101
Eureka Heights, *Harris*	1934	7	10	17	1,074	395,863	4,764,101
Fairbanks, *Harris*	1938	264	26	290	6,863	2,571,261	19,432,858
Fannett, *Jefferson*	1927	51	10	61	8,007	2,466,908	9,170,102
Fig Ridge, *Chambers*	1940	68		68	6,500	2,837,390	6,444,251
Fisher's Reef, *Chambers*	1940	2		2	110	43,179	180,838
Fostoria, *Montgomery*	1942			abn'd			7,298
Francitas, *Jackson*	1938	17		17	840	284,802	870,127
Fred, *Tyler*	1941	2		2	50	30,633	165,68
Frelsburg, *Colorado*	1944	1		1	5	12,287	23,217
Ganado, Shallow, *Jackson*	1937		5	5	75	27,428	340,871
Ganado, Deep, *Jackson*	1941	45	1	46	1,588	554,011	1,718,892
Ganado, W., *Jackson*	1940	40		40	1,672	612,500	2,097,388
Garwood, *Colorado*	1932			abn'd			6,198
Garwood, W., *Colorado*	1941	2	1	3	40	13,493	144,855
Gilbert Ranch, *Jefferson*	1945	1		1	47	4,252	4,252

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
UPPER TEXAS GULF COAST—Continued							
Gillock, *Galveston*	1935	85	26	111	4,169	1,517,751	12,999,010
Glasscock, *Galveston*	1944	1		1	40	53,456	56,147
Goodrich, *Polk*	1941					4,588	72,899
Goose Creek, *Harris*	1907	7	76	83	1,200	445,322	80,105,545
Green Lake, *Galveston*	1936						139,667
Hall's Bayou, *Brazoria*	1943	1		1	1,093	81,475	136,438
Hamel, *Colorado*	1945	1		1	75	10,257	10,257
Hamman, *Matagorda*	1936	8	14	22	810	286,023	5,005,221
Hampton, *Hardin*	1942					8,485	54,242
Hankamer, Old, *Liberty*	1929	6	14	20	500	203,394	6,272,291
Hankamer, New, *Liberty*	1934	3	3	6	225	82,731	980,708
Hardin, *Liberty*	1935	49	69	118	3,205	1,171,109	12,484,540
Harmon, *Jackson*	1942	7	10	17	425	163,208	620,214
Hastings, *Brazoria*	1934	632	50	682	47,000	20,969,315	106,663,948
Hawkinsville, *Matagorda*	1936			abn'd			2,000
High Island, *Galveston*	1922	20	40	60	2,500	286,969	20,803,346
Hillje, *Wharton*	1939	5	11	16	451	158,058	996,914
Hillje, S., *Wharton*	1945	1	1	2	150	20,499	20,499
Hitchcock, *Galveston*	1937	6	8	14	530	187,926	1,578,779
Hockley, *Harris*	1923	1		1	75	16,722	32,722
Hoskius Mound, *Brazoria*	1906			abn'd			32,000
Hope, *Lavaca*	1944	2		2	11	8,175	9,141
Hull, *Liberty*	1918	9	152	161	3,500	1,448,031	101,014,445
Humble, Deep, *Harris*	1928	5	30	35	900	358,055	14,299,107
Humble, Shallow, *Harris*	1904	5	156	161	1,200	459,842	115,681,964
Hyatt, S., *Tyler*	1945	1		1	70	21,135	21,135
Jackson Pasture, *Chambers*	1943	4		4	125	47,874	93,745
Joe's Lake, *Tyler*	1937	25	17	42	750	326,591	4,526,802
Joyce Richardson, *Harris*	1944	8		8	245	96,260	341,483
Katy, *Waller*	1938						368,537
Katy, N., *Waller*	1943	32		32	1,300	455,672	711,751
Kirby, *Liberty*	1943	14		14	475	238,292	560,767
Kubela, *Wharton*	1936	5	14	19	530	192,969	1,924,712
La Belle, *Jefferson*	1937	11	1	12	1,126	457,397	1,667,401
La Salle, *Jackson*	1944	6	1	7	325	64,312	83,839
Lake Creek, *Montgomery*	1941	5		5	116	47,013	379,119
Lane City, *Wharton*	1944	4		4	200	70,985	73,407
League City, *Galveston*	1938	18	11	29	2,146	838,171	5,027,605
Lissie, *Wharton*	1940					1,246	8,971
Little Kentucky, *Jackson*	1943	4		4	130	46,934	95,447
Livingston, *Polk*	1930		62	62	1,250	485,174	8,717,569
Livingston, Sparta, *Polk*	1942	17		17	900	298,497	395,040
Livingston, Wilcox, *Polk*	1942	30	1	31	1,900	477,001	627,792
Lochridge, *Brazoria*	1937	37	6	43	1,501	638,567	5,892,722
Lolita, *Jackson*	1940	175	19	194	6,506	2,264,837	10,252,039
Lost Lake, *Chambers*	1929		2	2	30	11,367	1,048,802
Louise, *Wharton*	1933	3	28	31	700	308,544	4,921,549
Lovell's Lake, *Jefferson*	1938	109	9	118	4,738	1,664,993	9,887,578
Lovell's Lake, N., *Jefferson*	1944	5		5	350	62,095	65,299
Lucky, *Matagorda*	1941	3		3	191	80,187	297,924
Magnet-Withers, *Wharton*	1936	194	73	267	7,550	2,957,256	21,552,646
Magnolia, *Montgomery*	1941			abn'd			1,682
Manvel, *Brazoria*	1931	77	74	151	6,750	2,834,744	31,769,224
Markham, *Matagorda*	1908	11	27	38	750	319,513	9,620,854
Markham, N., *Matagorda*	1938	1		1	3	4,512	61,759
Markham, N., Carlson, *Matagorda*	1941	4		4	640	228,538	520,894
Markham, N., Cornelius, *Matagorda*	1940	37		37	2,700	1,257,253	3,584,293
Martha, *Liberty*	1939	1	9	10	400	167,664	979,918
Matzke, *Wharton*	1945					130	130
Maurbro, *Jackson*	1941	68	19	87	2,001	703,211	2,462,369
Mauritz, *Jackson*	1936	7	3	10	425	173,774	1,040,623
Mauritz, E., *Jackson*	1944	4		4	44	19,667	30,211
Mauritz, W., *Jackson*	1942	17		17	825	295,958	870,387
Mayes, *Chambers*	1944	6		6	300	154,986	156,107
Mayo, *Jackson*	1942	37	13	50	1,904	690,396	1,700,848
Mercy, *San Jacinto*	1942	31	6	37	2,350	1,004,065	3,173,691
Moody Ranch, *Jackson*	1945		2	2	50	8,600	8,600
Moore (Orchard), *Fort Bend*	1926	5	9	14	363	120,912	4,417,082
Moss Bluff, *Liberty-Chambers*	1930			abn'd			179,000
Mustang Creek, *Jackson*	1942			abn'd			1,988
Mykawa, Old, *Harris*	1929		8	8	25	10,337	1,003,920
Mykawa, New, *Harris*	1930		18	18	180	76,855	3,953,443
Nash, *Fort Bend*	1926			abn'd			1,664,811
Needville, *Fort Bend*	1942	17	1	18	614	223,753	332,808
New Ulm, *Austin*	1945	1		1	25	5,194	5,194
Nome, *Jefferson*	1936	5	32	37	802	367,851	4,423,409
North Dayton, *Liberty*	1905					2,560	2,376,335
North Houston, *Harris*	1939	4		4	130	49,163	439,040
North La Ward, *Jackson*	1941	90	11	101	2,600	954,227	3,209,094
North Withers, *Wharton*	1940	131	25	156	9,300	4,337,492	12,540,664
Old Ocean, *Brazoria*	1934	147		147	18,000	6,118,716	35,015,044
Orange, *Orange*	1913		35	35	275	99,968	33,371,295
Orange, W., *Orange*	1937	8	26	34	751	298,558	4,046,415
Orange, Hill, *Austin*	1944						1,307
Orange Hill, W., *Colorado*	1945					345	345
Oyster Bayou, *Chambers*	1941	20		20	4,500	2,083,752	5,748,919
Palacios, *Matagorda*	1937	1		1	10	5,183	175,149
Pickett Ridge, *Wharton*	1935	15	33	48	1,409	521,051	4,937,364
Pierce Junction, *Harris*	1921	11	45	56	1,050	388,690	36,996,645
Pinehurst, *Montgomery*	1943	1		1	100	45,229	121,507
Pledger, *Brazoria*	1932			abn'd			17,000
Port Neches, *Orange*	1929	7	15	22	850	305,392	6,173,489
Port Neches, W., *Orange*	1939	15	11	26	1,200	433,909	2,065,227
Provident City, *Lavaca*	1942	1		1	11	4,159	8,083
Raccoon Bend Deep, *Austin-Waller*	1934	39	45	84	6,900	2,950,122	15,456,012
Raccoon Bend, Shallow, *Austin-Waller*	1927		77	77	1,100	408,930	19,667,395
Ramers Island, *Tyler*	1944	2		2	125	46,671	121,434
Ramsey, *Colorado*	1943	3		3	37	12,981	27,873

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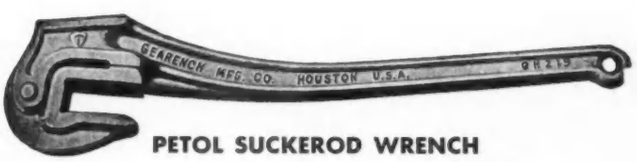

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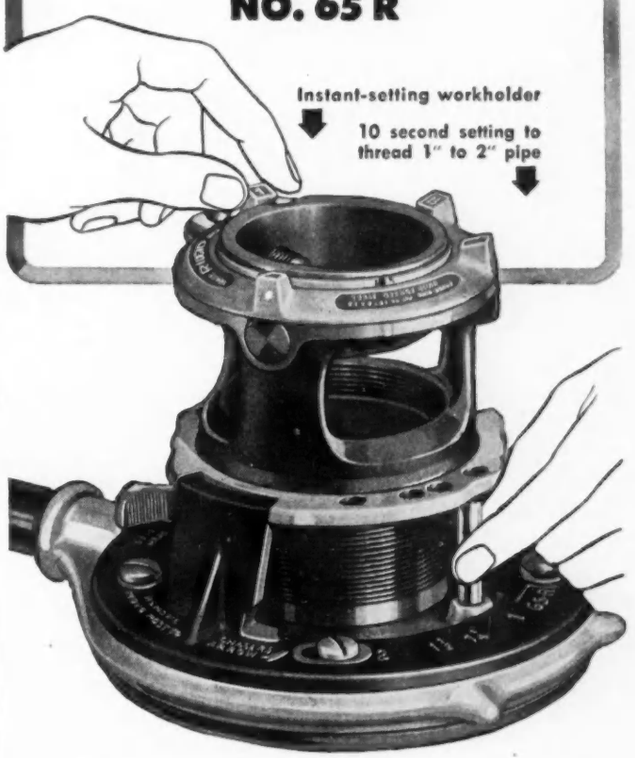

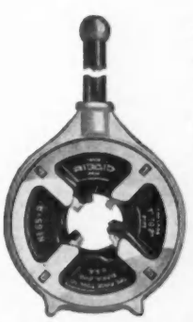

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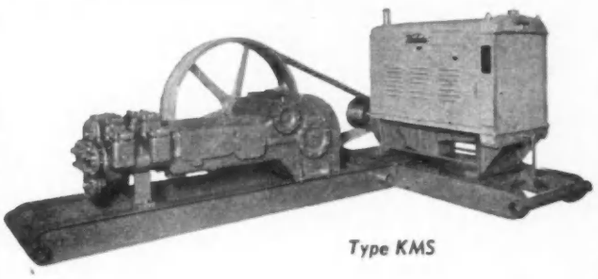
Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
UPPER TEXAS GULF COAST—Continued							
Red Fish Reef, *Chambers*	1940	20		20	1,900	979,023	3,461,696
Rock Island, *Colorado*	1945	1		1	21	2,414	2,414
Rockland, Old, *Jasper*	1928			abn'd			43,704
Rockland, New, *Tyler*	1944						454
Rosenberg, *Fort Bend*	1939						24,832
Rosslyn, *Harris*	1938	2		2	14	5,817	59,730
Rowan, *Brazoria*	1940	10		10	712	328,764	1,381,692
Sabine Pass, *Jefferson*	1941			abn'd			10,218
Sandy Point, *Brazoria*	1937		3	3	80	26,948	402,316
Saratoga, *Hardin*	1901		[2]06	206	475	173,710	30,569,674
Satsuma, *Harris*	1936	9	4	13	600	215,044	1,213,973
Schwab, Shallow, *Polk*	1934			abn'd			150,728
Schwab, Wilcox, *Polk*	1939	4	1	5	220	78,908	551,260
Seabreeze, *Chambers*	1936	24		24	1,810	692,179	2,382,340
Seabreeze, E., *Chambers*	1944					17,627	17,757
Sealy, *Austin*	1945	1		1	1	1,225	1,225
Segno, Deep, *Polk*	1938	28	51	79	2,500	936,944	6,970,391
Segno, Shallow, *Polk*	1936	28	13	41	1,083	411,772	3,903,382
Shepherd, *San Jacinto*	1940	1		1	23	9,069	59,457
Sheppards Mott, *Matagorda*	1936			abn'd			1,000
Sheridan, *Colorado*	1940	4		4	165	66,361	413,165
Silsbee, *Hardin*	1936	28	17	45	2,900	830,649	5,488,018
Silsbee, W., *Hardin*	1941		2	2	40	15,906	128,730
Smith's Point, *Chambers*	1944	5	3	8	1,200	326,291	401,085
Sour Lake, *Hardin*	1893	21	120	141	1,500	588,981	81,967,580
South Houston, *Harris*	1935	41	46	87	4,300	1,772,487	12,651,401
South Liberty, *Liberty*	1925	4	28	32	275	108,618	16,397,849
Spindletop, *Jefferson*	1901	4	109	113	700	274,745	128,004,082
Splendora, *Montgomery*	1934			abn'd			1,000
Spring, *Harris*	1944	4		4	225	84,294	98,480
Spurger, *Tyler*	1940		1	1	40	14,398	101,625
Sterling, *Jackson*	1945	1		1	1	90	90
Stewart, *Jackson*	1942	6	3	9	350	129,710	329,298
Stowell-Winnie, *Jefferson*	1941	89	19	108	13,500	6,306,671	13,809,126
Stratton Ridge, *Brazoria*	1922			abn'd			12,000
Sublime, *Colorado*	1945	2		2	100	37,354	37,354
Sugarland, *Fort Bend*	1928	24	27	51	6,000	2,467,910	38,598,204
Sugar Valley, *Matagorda*	1943						2,570
Texana, *Jackson*	1939	8		8	74	33,015	97,042
Thompson, *Fort Bend*	1931	171	53	224	23,850	9,844,279	70,917,482
Thompson, N., *Fort Bend*	1939	38		38	1,850	669,999	3,634,254
Thompson, S., *Fort Bend*	1939	77	4	81	5,850	2,442,857	10,735,417
Tomball, *Harris-Montgomery*	1933	228	222	450	10,537	3,726,713	33,686,468
Trinity (Kittrell), *Houston*	1934		16	16	325	133,877	2,319,469
Turtle Bay, *Chambers*	1935	23	9	32	1,108	428,797	3,836,108
Turtle Bay, Lotz Sand, *Chambers*	1939	3		3	34	13,777	87,987
Turtle Bay, E., *Chambers*	1943	3		3	140	58,491	138,857
Vanderbilt, *Jackson*	1934						250,870
Vienna, *Lavaca*	1941	3		3	32	9,984	11,571
Village Mills, *Hardin*	1944	2		2	129	37,664	38,030
Webster, *Harris*	1937	194	12	206	46,500	20,099,976	65,135,556
West Beaumont, *Jefferson*	1936	44	28	72	1,621	618,030	6,614,179
West Columbia, Old, *Brazoria*	1902	15	26	41	1,950	727,229	86,003,169
West Columbia, New, *Brazoria*	1937	56	55	111	5,100	1,885,621	12,530,882
Westhoff Ranch, *Jackson*	1945	1		1	4	827	827
West Ranch, *Jackson*	1938	432	15	447	15,326	7,055,984	32,978,650
Willow Slough, *Chambers*	1938	14		14	286	120,580	1,080,908
Wilson Creek, *Matagorda*	1937	1		1	14	5,164	239,117
Winnie, N., *Chambers*	1944	4		4	60	26,604	48,605
Word, *Lavaca*	1945	1		1	3	2,337	2,337
Total Upper Texas Gulf Coast		6,282	3,312	9,594	467,898	190,617,505	2,059,484,521
LOWER TEXAS GULF COAST							
Agua Dulce, *Nueces-Jim Wells*	1930	155	29	184	9,914	3,770,349	11,459,980
Alamo, *Hidalbo*	1942			abn'd			1,459
Albert, W., *Live Oak*	1945	1		1	16	3,487	3,487
Albrecht, *Goliad*	1944	1		1	21	7,714	8,617
Alfred, *Jim Wells*	1938	9	9	18	450	163,996	988,297
Alice, *Jim Wells*	1938	27	16	43	1,356	487,546	4,176,432
Almond, *Jim Wells*	1945	1		1		23	23
Angelita, *San Patricio*	1934			abn'd			29,214
Aransas Pass, *Aransas-San Patricio*	1936	25	102	127	3,600	1,337,873	15,176,046
Baffins Bay, *Kleberg*	1940			abn'd			3,593
Baldwin (S. Saxet), *Nueces*	1935	2	17	19	470	164,902	1,289,016
Bandera, *Jim Wells*	1939						1,532
Beeville (Church), Bee	1935			abn'd			1,000
Belknap, *Karnes*	1945	1		1	109	22,371	22,371
Ben Bolt, *Jim Wells*	1939	34	29	63	1,600	642,982	4,045,341
Ben Bolt, 4500-ft sand, *Jim Wells*	1941		1	1	20	3,609	163,435
Bird Island, *Kleberg*	1939	3		3	17	6,477	50,250
Blanconia, *Bee*	1943	10		10	110	42,627	84,230
Blucher, *Jim Wells*	1939	3		3	150	20,189	38,468
Boedecker, *Brooks*	1944	1		1	1	184	655
Bonnie View, *Refugio*	1939	28		28	1,400	351,163	363,766
Boyce, *Goliad*	1945	3	1	4	212	30,383	30,380
Brayton, *Nueces*	1944	10	2	12	475	187,133	229,512
Brownlee, *Jim Wells*	1944	1		1	3	1,685	8,739
Burnell, *Karnes*	1938	7		7	475	44,067	45,538
Burnell, Wilcox, *Karnes*	1943	7		7	133	100,986	[3]164,776
Burnell, S., *Karnes*	1937	1	25	26	110	40,595	1,155,322
Cabeza Creek, *Goliad*	1943	2		2	240	54,362	74,950
Cabeza Creek, S., *Goliad*	1944	3		3	112	11,829	16,038

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
LOWER TEXAS GULF COAST—Continued							
Caesar (Ruhman), *Bee*	1934		16	16	33	12,373	1,077,419
Caesar, S., *Bee*	1942	34	3	37	1,758	597,915	1,712,545
Camada, *Jim Wells*	1939			abn'd			4,890
Canales, *Jim Wells-Kleberg*	1944	16		16	1,357	335,714	463,759
Captain Lucey (Bentonville), *Jim Wells*	1936	2	4	6	70	24,694	591,279
Chapa, *Live Oak*	1944						2,393
Chapman Ranch, *Nueces*	1937			abn'd			41,511
Chapman Ranch, Cond., *Nueces*	1942			abn'd			789
Chapman Ranch, New *Nueces*	1941		4	4	80	28,583	93,553
Clara Driscoll, *Nueces*	1935	5	15	20	500	169,283	1,766,234
Clara Driscoll, S., *Nueces*	1937	27	62	89	1,806	694,132	5,700,703
Clark Muile, *Jim Wells*	1939			abn'd		4,119	49,819
Clemens	1945	1		1	35	3,154	3,154
Coleto Creek, *Victoria*	1934	22	11	33	750	183,153	2,015,556
Cologne, *Victoria*	1939	3	5	8	200	71,210	363,084
Coloma Creek, *Calhoun*	1941						[4]53,366
Coquat, *Live Oak*	1943	2		2	45	14,238	27,915
Corpus Christi, *Nueces*	1935						6,763,621
Cosden, Wilcox, *Bee*	1943	2		2	60	23,225	33,407
Cosden, W., *Bee*	1944		1	1	8	3,411	11,706
Coy City, *Karnes*	1945	5		5	59	15,814	15,814
Dial, *Goliad*	1944	2		2	24	9,914	9,972
Diamond Half, *Goliad*	1936	1	7	8	70	18,099	674,343
Dinero, *Live Oak*	1935			abn'd			83,913
Dirks, *Bee*	1934		83	83	1,000	382,750	7,066,611
Dougherty, *Nueces*	1944		1	1	15	4,855	8,699
Edwards Ranch, *Victoria*	1943	2		2	4	1,442	2,779
Fagan, *Refugio*	1940	3		3	18	6,977	98,646
Falls City, *Karnes*	1944	13		13	1,150	220,846	220,846
Fannin, N., *Goliad*	1945	1		1	3	1,630	1,630
Flour Bluff, *Nueces*	1936	53	26	79	2,743	1,042,695	10,204,833
Flour Bluff, E., *Nueces*	1940	20		20	1,076	386,779	1,452,976
Fort Merrill, *Live Oak*	1935			abn'd			32,000
Gaffney, *Victoria*	1945	2		2	100	21,068	21,068
Gallagher, *Jim Wells*	1940	4		4	125	49,825	226,744
Gandy (Driscoll Ranch), *Nueces*	1939	5	6	11	152	58,546	504,673
Genevieve, *Bee*	1941			abn'd			1,206
Goebel, *Live Oak*	1943	3		3	27	13,196	58,091
Goliad, W., *Goliad*	1945	1		1	50	31,611	31,611
Grayburg, (Kimble), *Bee*	1934			abn'd			5,000
Green, *Karnes*	1944		2	2	75	29,584	38,330
Gregory, *Live Oak*	1944	2		2	17	11,135	30,798
Greta, *Refugio*	1933	150	45	195	7,788	3,012,770	35,228,914
Greta, Deep, *Refugio*	1933	10		10	550	208,893	1,923,055
Haldeman (Seelig), *Jim Wells*	1941	1	1	2	24	8,172	54,850
Henshaw, 3700-ft & 5100-ft., *Jim Wells*	1940	2	1	3	48	19,149	95,392
Heyser, *Calhoun*	1936	144	78	222	7,500	2,815,721	26,621,889
Hinnant, *Live Oak*	1945	1		1	50	5,228	5,228
Hobson, *Karnes*	1943	11		11	540	198,121	581,364
Holzmark, *Bee*	1939	4	3	7	130	57,853	2 12,776
Hondo Creek, *Karnes*	1943	2	2	4	200	73,363	137,093
Hordes Creek, *Goliad*	1935	2		2	15	6,031	88,179
Howell, *Jim Wells*	1944						64,476
Hysaw, *Karnes*	1945	2		2	50	4,921	4,921
Jay Welder (Duck Bay), *Calhoun*	1940	5		5	200	86,669	336,774
Keeran, *Victoria*	1932	8	9	17	875	307,492	2,413,264
Keeran, N., *Victoria*		4		4	14	5,358	5,358
Kingsville, *Kleberg*	1926		2	2	5	7,302	792,106
Kittie, *Live Oak*	1943	2		2	5	959	2,009
Kittie, W., *Live Oak*	1945	1		1	23	1,587	1,587
Koontz, *Victoria*	1944	5		5	100	36,500	40,558
Koopman, *Jim Wells*	1942		1	1	7	3,339	35,290
La Blanca, *Hidalgo*	1937	6		6	51	20,825	692,648
La Gloria, *Jim Wells*	1939	9	1	10	1,107	208,261	296,341
La Mar, *Aransas*	1937			abn'd			1,092
La Rosa, *Refugio*	1938	7	76	83	3,421	1,452,203	7,530,853
La Rosa, N., *Refugio*	1943	1		1	93	33,489	63,956
La Sal Vieja, *Willacy*	1936	1		1	47	6,073	21,073
Loma Blanca (Gyp Hill), *Brooks*	1945	1		1	9	1,030	1,039
London, *Nueces*	1937		3	3	45	15,340	144,562
Luby, *Nueces*	1937	124	21	145	3,702	1,320,325	11,936,088
McAllen (Pharr), *Hidalgo*	1938	2		2	6	3,915	29,713
McCaskill, *Karnes*	1944	1		1	17	530	530
McFaddin, *Victoria*	1930	63	25	88	3,780	1,662,380	9,168,214
McFaddin, N., *Victoria*	1937	18		18	321	103,631	331,673
McMurry, *Bee*	1937			abn'd			6,934
McNeil, *Live Oak*	1934	2		2	20	7,861	303,475
Magnolia City, *Jim Wells*	1939	6	4	10	332	135,831	421,858
Magnolia City, N., *Jim Wells*	1943	26		26	2,025	635,809	811,398
Mathis, E., *San Patricia-Live Oak*	1940			abn'd			14,391
Melon Creek, *Refugio*	1939		10	10	375	137,775	1,064,285
Mercedes (Capsillo), *Hidalgo*	1935	2		2	5	1,520	201,459
Midway, *San Patricio*	1937	37	34	71	3,307	1,243,151	5,968,996
Mineral, *Bee*	1943	1		1	58	17,451	76,908
Mineral, S., *Bee*	1944	2		2	5	4,662	6,394
Minnie Bock, *Nueces*	1939	8	56	64	1,675	616,314	3,857,598
Mission River, *Refugio*	1938	6	10	16	475	157,381	2,278,061
Mission Valley, *Live Oak*	1944						6,098
Mt. Lucas, *Live Oak*	1923	2	3	5	37	13,390	376,753
Nordheim, *DeWitt*	1942	3		3	60	2,863	72,622
Normanna, *Bee*	1929	1	2	3	10	5,059	114,484
Oakville, *Live Oak*	1937	2	19	21	335	125,479	1,282,540
Oakville, Wilcox, *Live Oak*	1944	2		2	35	9,121	9,121

LOCKETT-WORTHINGTON POWER-DRIVEN PUMP UNIT



Type KMS

LET a "Lockett Dealer" supply your pump-equipment needs! Worthington Pumps and *genuine* Worthington Repair Parts are available — through Lockett Dealers — from warehouses maintained in the principal oil fields throughout Texas and Louisiana, backed up by a large replenishing stock at our Houston and New Orleans Warehouses. Worthington Pumps are adaptable for use with gas, gasoline, Diesel, or electric motor of any specified type or manufacture.

Just as you are assured of getting reliable performance and years of efficient and uninterrupted service from a Worthington Pump, you are also assured of getting prompt, dependable service through Lockett Dealers.

A. M. LOCKETT & COMPANY, LTD.

NEW ORLEANS HOUSTON DALLAS

FORECAST

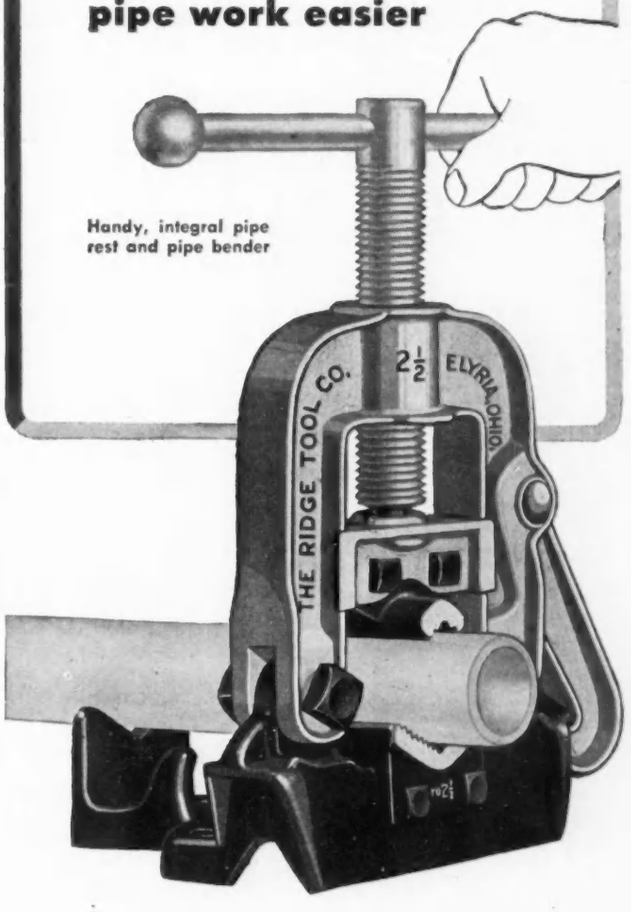
Accuracy!

A year ago the Yearbook-Forecast number of The Oil Weekly made, among other forecasts, its customary estimate of U. S. well completions for the coming year. At the end of 1945 the actual well completions numbered 92 more than the estimate . . . and Oil Weekly editors erred on the conservative side by ½ of 1%.

A contemporary weekly in the oil field, using its own sources of information, missed the ball by 2527 wells . . . an error of over 9%. That journal overshot in Pennsylvania and West Virginia; was considerably under in forecasting wells in New York, Arkansas, Wyoming, Texas, Oklahoma, Kansas and Illinois. However, it hit California right on the nose.

The OIL WEEKLY

This handy Red-Top RIDGID yoke vise makes your pipe work easier



Handy, integral pipe rest and pipe bender

● Look for the red yoke on a black base when you buy a bench vise—for this sturdy RIDGID of strong special malleable offers you unusual convenience. It has an integral pipe rest for easier cutting and threading; it has a handy pipe bender. Its tool-steel LonGrip jaws are easy on polished pipe. It's more for your money—buy in any of 8 sizes for pipe to 6 inches, at your Supply House.

RIDGID *Vises, Yoke & Chain in 9 styles, 23 sizes.*

RIDGID

WORK-SAVER PIPE TOOLS

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U. S. A.

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
LOWER TEXAS GULF COAST—Continued							
O'Connor, McFaddin, *Victoria*	1931		2	2	22	8,535	625,916
Odem, *San Patricio*	1940	60		60	1,775	719,458	2,550,062
Odem, N., *San Patricio*	1944	1		1	3	3,499	5,336
O'neil, *San Patricio*	1944	1		1	2	327	794
Orange Grove, *Jim Wells*	1940	17	8	25	891	355,003	2,464,598
Petronilla, *Nueces*	1942	14	2	16	475	183,548	429,473
Pettus, *Bee*	1928		27	27	700	255,679	9,518,693
Pettus, New, *Bee*	1934		46	46	450	171,401	3,909,010
Pettus, N., Wilcox, *Bee*	1942	6		6	34	36,040	206,270
Pita, *Brooks*	1945	1		1	8	649	649
Placedo, *Victoria*	1935	51	104	155	4,337	1,775,097	18,687,695
Placedo, E., *Victoria*	1938	27	11	38	1,475	542,760	1,858,890
Plummer, *Bee*	1937	1	1	2	27	11,356	290,491
Plymouth, *San Patricio*	1935	152	46	198	8,708	3,245,091	35,945,284
Plymouth, E., *San Patricio*	1941	3		3	3	1,817	2,536
Porter, *Karnes*	1943	12	2	14	702	263,863	568,784
Port Lavaca, *Calhoun*	1934			abn'd			420,941
Premont, *Jim Wells*	1933	1	1	2	30	11,377	841,724
Premont Prospect, *Jim Wells*	1941		2	2	10	4,241	39,846
Pridham's Lake, *Victoria*	1944	6	2	8	175	45,642	61,932
Quinto Creek, *Jim Wells*	1942	2		2	82	28,480	108,180
Rachal, *Brooks*	1945	1		1	4	298	298
Ray-Wilcox (Cond.), *Bee*	1944	1		1	7	917	8,700
Ray, *Bee*	1935		7	7	110	43,975	1,723,630
Raymondville, *Willacy*	1931	2		2	25	9,612	4,569,332
Refugio, Deep, *Refugio*	1920	95	43	138	5,224	1,608,109	13,509,095
Refugio, Shallow, *Refugio*	1929	4	21	25	275	120,284	31,230,694
Refugio, N., *Refugio*	1941	6	1	7	105	37,690	153,376
Reynolds, *Jim Wells*	1939	8	8	16	300	116,355	1,642,552
Ricardo, *Kleberg*	1945	3		3	102	36,151	36,151
Richard King, *Hueces*	1937	93		93	2,906	1,200,221	5,309,488
Riverside, *Nueces*	1939	10		10	278	102,447	288,497
Riviera, *Kleberg*	1945	1		1	9	288	288
Robstown, *Nueces*	1939	2	1	3	45	25,038	185,284
Rooke, *Refugio*	1942	20	1	21	906	294,234	595,017
Runge, *Karnes*	1943	11	3	14	223	217,412	302,652
Rutledge, *Bee*	1935			abn'd			21,000
San Salvador, *Hidalgo*	1937	1		1	2	208	162,432
Sandia, *Jim Wells*	1937	1		1	14	4,628	45,777
Sarco, *Goliad*	1938			abn'd			2,401
Saxet, Shallow, *Nueces*	1930	18	129	147	3,243	1,242,161	33,345,781
Saxet, Deep, *Nueces*	1936	8	34	42	1,800	704,850	27,404,634
Seeligson, *Jim Wells*	1938	463	5	468	30,090	10,748,131	20,528,302
Shield, *Nueces*	1940	11	4	15	753	294,006	1,079,002
Sinton, *San Patricio*	1934	2		2	42	7,778	92,644
Sinton, W., *San Patricio*	1944	1		1	12	4,810	4,961
Slick, *Goliad-DeWitt*	1930						75,617
Slick, Wilcox, *Goliad*	1943	52		52	4,003	1,431,158	2,350,700
St. Charles, *Aransas*	1940					858	51,200
Stratton, *Nueces*	1938	217	14	231	9,500	3,988,554	11,298,341
Taft, *San Patricio*	1936	40	36	76	2,350	1,038,489	7,972,229
Telferner, *Victoria*	1940	2	2	4	21	7,348	33,165
Telferner, E., *Victoria*	1938	3		3	58	15,356	65,255
Terrell, *Victoria*	1940			abn'd			13,663
Terrell Point, *Goliad*	1944	4		4	65	18,550	25,825
Thomaston, *DeWitt*	1940	1		1		1,290	21,214
Tijerina, *Jim Wells*	1944	45		45	2,600	614,562	754,154
Tom Graham (E. Alice), *Jim Wells*	1938	30	3	33	1,075	388,570	2,578,448
Tom O'Connor, *Refugio*	1934	453	2	455	35,006	17,734,383	83,261,557
Tuleta & Tuleta, W., Wilcox, *Bee*	1934	5	20	25	434	141,009	2,352,505
Tulsita, *Bee*	1939		1	1	5	1,683	15,243
Tulsita, Wilcox, *Bee*	1945	3		3	250	51,080	51,080
Turkey Creek, (W. Saxet), *Nueces*	1938	33	12	45	1,250	466,850	5,723,136
Tynan, *Bee*	1943	2		2	20	5,382	15,854
Victoria, *Victoria*	1940	1	8	9	100	36,761	454,316
Violet *Nueces*	1943	1		1	15	10,136	23,248
Voss, *Bee*	1936			abn'd			78,446
Wade City, *Jim Wells*	1939	40	48	88	2,123	861,755	5,661,488
Weesatche, *Goliad*	1944	2	1	3	47	3,817	3,817
Weser, *Goliad*	1937					4,649	40,082
Weslaco, *Hidalgo*	1938	1		1		2,421	6,267
White Creek, *Live Oak*	1939		29	29	110	38,527	486,528
White Creek, S., *Live Oak*	1941		6	6	120	34,171	213,766
White Point, *San Patricio*	1919	1	2	3	122	30,417	273,972
White Point, E., *San Patricio*	1938	227	27	254	10,039	4,480,326	24,097,837
Whittington, *Live Oak*	1935			abn'd			3,000
Willamar, *Willacy*	1940	119	3	122	8,600	2,835,523	4,323,098
Willman, *San Patricio*	1945	9		9	607	95,631	95,631
Wilson (Cond.), *Jim Wells*	1943	2		2	57	18,533	46,639
Woodsboro, *Refugio*	1941	8		8	283	114,736	406,539
Yoakum, S., *DeWitt*	1945	1		1	33	5,263	5,263
Yorktown, *DeWitt*	1942	2		2		700	13,018
Yougeen, *Bee*	1944	7		7	200	36,547	36,547
Total Lower Texas Gulf Coast		3,681	1,608	5,289	219,358	85,768,127	570,633,587
SOUTHWEST TEXAS							
Adami, *Webb*	1939		53	53	160	59,952	685,046
Agua Prieta, *Duval*	1941	10		10	360	62,973	93,347
Albercas, *Webb*	1928			abn'd			2,547,611
Alta Mesa, *Brooks*	1936	1	34	35	1,362	523,878	2,303,528
Alta Verde, *Brooks*	1938			abn'd			6,667
Alworth, *Zapata-Jim Hogg*	1927			abn'd			27,000
Armstrong, *Jim Hogg*	1943	23	7	30	1,100	368,545	553,181

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
SOUTHWEST TEXAS —Continued							
Aviators, *Webb*	1922		71	71	225	81,554	6,436,427
Barbacoas, *Starr*	1934						35,547
Benavides, (N. Sweden), *Duval*	1937	56	133	189	3,353	1,294,661	15,371,949
Benavides, E., *Duval*	1941	2		2	67	26,848	71,712
Blanchard, *Duval*	1939						56,234
Boyle, *Starr*	1940	21	4	25	1,000	306,269	762,751
Birdwell, *Duval*	1940	11	1	12	185	76,981	327,804
Bruni, *Webb*	1934	1	6	7	20	7,708	2,470,671
Bruni, E., *Webb*	1937		11	11	25	9,047	381,445
Bruni, S., *Webb*			4	4	20	4,204	4,204
Cadena, *Duval*	1942	14	7	21	555	199,725	437,955
Calliham, *McMullen*	1919		61	61	100	37,626	1,045,834
Cameron, *Starr*	1943	19	1	20	951	330,196	595,284
Campana, S., *McMullen*	1941	16		16	225	73,886	267,741
Carolina-Texas, *Webb*	1921			abn'd			262,402
Casa Blanca, *Duval*	1938		51	51	600	222,627	1,252,982
Casa Blanca, N., *Duval*	1939		9	9	100	37,896	223,197
Casa Blanca, W., *Duval*	1940		16	16	200	77,262	334,172
Cedro Hill, *Duval*	1939	5	72	77	850	327,144	1,612,009
Charamousca, *Duval*	1937		18	18	175	62,874	838,068
Charamousca, S., *Duval*	1941		15	15	115	40,276	240,559
Charco Redondo, *Zapata*	1919		29	29	6	1,472	164,347
Chiltipin, *Duval*	1939	2		2	4	1,750	60,263
Clara (Bruce), *Duval*	1943		1	1	15	4,955	5,516
Cole, *Webb-Duval*	1924		67	67	300	114,035	5,198,137
Colmena, *Duval*	1936		22	22	100	40,050	657,947
Colorado, *Jim Hogg*	1936	179	59	238	2,025	722,457	4,422,856
Comitas, *Zapata*	1934		130	130	200	78,114	1,945,893
Conoco-Driscoll, *Duval*	1927	44	30	74	2,650	1,028,793	7,870,926
Cuellar, *Zapata*	1928		13	13	28	9,558	2,667,092
Dunlup, *Webb*	1943		13	13	285	99,939	220,685
Eagle Hill, *Duval*	1933		50	50	475	192,536	2,282,953
East, *Jim Hogg*	1942	9		9	180	68,278	150,045
El Tangue (S. Ricabyl), *Starr*	1937		7	7	50	19,231	467,467
Escobas, *Zapata*	1929		213	213	525	199,528	8,481,950
Ezzell & Hockley sd., *McMullen-Live Oak*	1937		137	137	550	205,233	3,401,839
Fitzsimmons, *Duval*	1938	45	20	65	760	287,549	3,465,311
Fitzsimmons, E., *Duval*	1940			abn'd			485
Flores, *Starr*	1945		1	1	25	4,266	4,266
Frost, *Starr*	1942		1	1	2	887	7,459
Garcia, *Starr*	1942	83	4	87	3,400	1,212,577	1,529,028
Glenn, *Webb-Zapata*	1940	3	56	59	875	356,522	2,018,263
Gormac, *Duval*	1945	5	4	9	275	69,840	69,840
Government Wells, N., 1800-ft., sd, *Duval*	1942	1	4	5	75	28,418	90,320
Government Wells, N., Middle Yegua, *Duval*	1941	1	1	2	25	9,517	50,266
Government Wells, N., *Duval*	1928		378	378	4,300	1,593,790	36,098,102
Government Wells, S., *Duval*	1928	18	202	220	1,800	674,110	20,705,040
Guerra (Cuevitas), *Starr*	1933	8	6	14	522	204,799	1,848,012
Henne-Winch-Farriss, *Jim Hogg*	1924			abn'd			3,215,204
Herbst, *Duval*	1944		2	2	20	8,124	10,089
Hoffman, *Duval*	1935	1	304	305	3,450	1,306,816	13,306,963
Holbein, *Jim Hogg*	1940		8	8	35	15,622	146,555
Holland-Hebbronville, *Jim Hogg*	1940			abn'd			1,348
Ira (Zim), *Starr*	1945	1		1	20	2,760	2,760
Jacobs, *McMullen*	1932		71	71	205	77,037	1,886,159
Jennings, *Zapata*	1932		71	71	615	237,507	3,305,154
Kelsey, *Jim Hogg*	1938	90	31	121	3,880	1,154,115	4,600,967
Killam, *Webb*	1937		65	65	150	73,458	1,434,898
Killam, N., *Webb*	1938		4	4	15	7,285	88,403
Kohler, *Duval*	1926	1	7	8	30	10,061	719,664
Kreis, *Duval*	1941	1	8	9	100	37,013	204,162
Labbe, *Duval*	1937		9	9	100	36,834	555,768
La Reforma, *Starr*	1938	1		1	12	912	33,505
Las Animas, *Jim Hogg*	1938		8	8	30	11,534	96,039
Las Mujeres, *Jim Hogg*	1944	1		1	3	1,402	2,661
Laurel, *Webb*	1932					498	630,632
Lefevre, *Jim Hogg*	1945	1	1	2	20	1,986	1,986
Lockhart, *Starr*	1943	7	3	10	250	95,715	303,222
Loma Alta, *McMullen*	1935		3	3	41	15,168	208,450
Loma Alta, Wilcox, *McMullen*	1944	6		6	175	53,200	57,031
Loma Novia, *Duval*	1934		497	497	2,800	1,076,398	30,819,574
Loma Vista, *Duval*	1936			abn'd			19,999
Longhorn, *Duval*	1938	20	19	39	1,000	354,424	2,928,228
Longhorn, E., *Duval*	1945	12		12	1,200	204,294	204,294
Lopez, *Duval*	1935		287	287	2,150	778,337	15,065,589
Los Indios, *Hidalgo*	1944					312	4,146
Los Olmos, *Starr*	1925		70	70	45	13,942	677,750
Lundell, *Duval*	1937	26	69	95	1,000	368,244	2,519,271
Lykes, *Webb*	1942					94	2,139
McLean, *Webb*	1942		7	7	180	71,736	267,851
Manila, *Jim Hogg*	1940		11	11	115	45,030	357,811
Mariposa, *Brooks*	1945	1		1	65	16,286	16,286
Mirando City, *Webb*	1922		51	51	210	84,771	9,564,753
Mirando Valley, *Zapata*	1921		29	29	20	8,070	1,589,230
Moca, *Webb*	1932		11	11	125	41,046	1,332,321
Munson, *McMullen*	1938		11	11	20	9,464	219,311
Neuhaus, *Jim Hogg*	1942	3	4	7	50	20,712	68,908
Nichols, *Hidalgo*	1941	5	5	10	135	65,301	463,044
O'Hern, *Duval & Webb*	1936		144	144	1,475	555,457	12,451,660
Oilton, *Webb*	1937		41	41	120	44,428	1,816,280
Palangana, *Duval*	1928			abn'd			4,000
Patel, *Jim Hogg*	1945	2		2		468	468
Penitas, *Hidalgo*	1944						344
Peters, *Duval*	1933	1	2	3	40	15,378	293,354

WHITNEY NATIONAL BANK
OF NEW ORLEANS

ESTABLISHED 1883

REPORT TO COMPTROLLER OF THE CURRENCY (CONDENSED)
AS OF MONDAY, DECEMBER 31, 1945

RESOURCES		LIABILITIES		
Cash and Due from Banks	$ 82,306,077.22	Deposits		$353,283,671.01
U. S. Government Obligations, Direct and Fully Guaranteed	185,985,162.42	Acceptances Account of Customers and Letters of Credit		1,318,328.48
State, County and Other Public Bonds	28,871,721.92	Dividend Declared, Payable January 2, 1946		84,000.00
Other Bonds and Securities	539,118.07	Accrued Interest, Expenses and Reserves		923,627.84
Loans, Discounts and Acceptances	66,126,051.65	Capital	$2,800,000.00	
Customers' Liability Account of Acceptances and Letters of Credit	1,098,216.10	Surplus	7,200,000.00	
Stock of Federal Reserve Bank	300,000.00	Undivided Profits	3,757,545.48	
Accrued Income Receivable and Prepaid Expenses	865,542.89	Reserve for Dividend not Declared	168,000.00	13,925,545.48
Banking House, Furniture and Fixtures	2,686,269.37			
Branch Banking Houses	603,342.32			
Other Real Estate	153,670.85			
TOTAL	$369,535,172.81	TOTAL		$369,535,172.81

DEPOSITARY OF THE UNITED STATES GOVERNMENT, STATE OF LOUISIANA AND CITY OF NEW ORLEANS

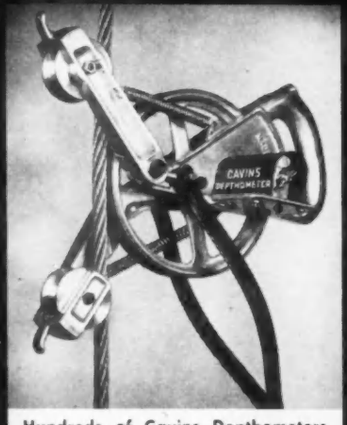
MEMBER OF THE FEDERAL DEPOSIT INSURANCE CORPORATION

Here's the Accurate Way to take Wire Line Measurements

Easy to use

Light and handy to carry

No more "Stringing-in" Guess Work



Hundreds of Cavins Depthometers are in successful service giving their owners direct-reading, accurate well measurements. This strong, simple device comes in a handy carrying case (weighs only 17 pounds)—is put on the line in a few seconds, and tells you where bottom is quickly and dependably. —Write for folder to The Cavins Co., 2853 Cherry Ave., Long Beach 6, California.

Gives you accurate depth

Direct reading

Pays for itself in a short time

THE CAVINS DEPTHOMETER

Fohs Oil Company

☆

Mellie Esperson Building

Houston, Texas

Field, County	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
SOUTHWEST TEXAS —Continued							
Peters, E., *Duval*	1940	1	3	4	20	7,995	50,306
Piedra Lumbre, *Duval*	1935	.....	124	124	1,700	770,866	5,689,118
Piedras Pintas, *Duval*	1925	.....	.....	abn'd	.....	.....	147,215
Rancho Solo, *Duval*	1937	.....	16	16	35	16,926	344,253
Rancho Solo Extension, *Duval*	1940	.....	10	10	50	19,161	227,652
Randado, *Jim, Hogg*	1925	.....	82	82	125	41,971	5,043,070
Retamina, *Webb*	1944	1	.....	1	3	1,077	2,046
Ricaby, *Starr*	1937	.....	9	9	100	34,281	210,087
Richardson, *Duval*	1944	.....	4	4	35	9,135	9,135
Rincon, *Starr*	1938	127	16	143	5,550	2,431,867	11,080,591
Rincon, N., *Starr*	1939	33	10	43	1,479	520,090	879,505
Rio Grande City, *Starr*	1932	.....	14	14	20	6,643	471,791
Rios, *Duval*	1944	.....	.....	.....	.....	.....	84
Robinson, *Duval*	1944	6	.....	6	201	41,866	42,899
Rodriguez, *Starr*	1941	.....	.....	abn'd	.....	.....	40
Roma, *Starr*	1928	.....	.....	abn'd	.....	.....	17,308
Rosita, *Duval*	1944	.....	3	3	50	32,111	76,101
Ross, *Starr*	1943	17	18	35	1,100	357,903	551,960
S. R. C., *Duval*	1930	.....	.....	abn'd	.....	.....	203,000
Sam Fordyce, *Starr-Hidalgo*	1934	.....	24	24	125	59,225	7,719,026
Santa Maria, *Hidalgo*	1945	1	.....	1	17	1,023	1,023
Sarnosa, *Duval*	1932	.....	36	36	225	80,696	2,956,863
Scott & Hopper, *Brooks*	1944	7	.....	7	236	88,996	169,794
Sejita, *Duval*	1940	26	1	27	900	415,289	1,002,299
Seven Sisters, *Duval*	1935	.....	386	386	6,350	2,344,716	24,278,392
Seven Sisters, S., *Duval*	1937	.....	20	20	60	23,670	782,646
Southland, *Duval*	1939	14	4	18	615	162,774	408,752
Staggs, *Webb*	1945	.....	2	2	50	9,768	9,768
Strake, *Duval*	1943	5	2	7	386	102,909	231,811
Sullivan City, *Hidalgo*	1940	21	1	22	501	177,384	972,309
Sullivan, Dan, *Brooks*	1944	.....	1	1	2	1,453	4,658
Sun, *Starr*	1938	75	7	82	2,612	1,103,266	4,258,788
Sun, N., *Starr*	1942	30	1	31	1,175	523,068	1,351,431
Sweden, *Duval*	1937	3	1	4	25	14,730	301,206
Taranchuas, *Duval*	1940	.....	27	27	553	201,304	998,149
Tesoro (De Soto), *Duval*	1938	1	.....	1	20	7,105	242,203
Thomas Lockhart, *Duval*	1937	9	.....	9	152	69,498	118,899
Volpe, *Webb*	1939	.....	27	27	430	154,605	912,264
Washburn Ranch, *La Salle*	1940	17	6	23	758	339,699	892,375
Weil, *Jim Hogg*	1943	6	.....	6	240	91,100	173,444
Welder, *Duval*	1944	.....	3	3	50	17,459	24,840
Yeager, *Jim Hogg*	1943	.....	5	5	110	42,078	116,711
Yturria, *Starr*	1941	17	2	19	500	167,383	465,852
Ysaguirre, *Starr*	1940	.....	.....	abn'd	.....	.....	5,362
Total Southwest Texas	....	1,174	4,740	5,914	77,661	28,872,875	328,072,892
SOUTH CENTRAL TEXAS (San Antonio District)							
Alta Vista, *Bexar*	1915	.....	.....	.....	.....	.....	61,444
Bateman (N. Dale), *Bastrop*	1932	.....	7	7	13	5,921	645,641
Batesville, *Zavalla*	1937	.....	.....	.....	.....	.....	12,000
Bee Creek, *Caldwell*	1940	.....	22	22	25	13,837	300,166
Bob Rose, *Caldwell*	1932	.....	2	2	5	1,724	241,753
Buchanan, *Caldwell*	....	.....	23	23	50	19,904	514,713
Burdette Wells, *Caldwell*	1938	.....	.....	.....	.....	.....	40,396
Carrizo, *Dimmit*	1941	.....	.....	.....	.....	415	5,882
Carroll Estate, *Bastrop*	1933	.....	.....	.....	.....	.....	100,487
Carver-Kallison (Nash Creek), *Guadalupe*	1937	.....	.....	.....	.....	.....	46,012
Cedar Creek, *Bastrop*	1913	.....	.....	.....	.....	3,914	235,303
	1933	.....	.....	.....	.....	.....	
Cedar Creek, N., *Bastrop*	1934	.....	.....	.....	.....	.....	70,018
Chapman Abbot, *Williamson*	1930	.....	70	70	120	49,143	4,730,778
Charlotte, *Atascosa*	1944	2	3	5	290	96,791	111,961
Chicon Lake, *Medina*	1934	.....	77	77	29	10,924	120,514
Chittim, *Maverick*	....	3	.....	3	17	4,531	4,531
Bhriesman, Tanglewood, *Burleson*	1938	.....	.....	.....	.....	.....	14,753
Clark, *Guadalupe*	1935	.....	1	1	6	.....	399,940
Cooksey, *Bexar*	....	.....	.....	.....	.....	.....	61,000
Dale, *Caldwell*	1927	.....	41	41	65	25,672	1,537,357
Dale, W., *Caldwell*	1937	.....	8	8	20	8,001	140,152
Darst Creek, *Guadalupe*	1929	2	343	345	7,250	3,143,566	63,129,460
Day, *Guadalupe*	1940	.....	.....	.....	.....	.....	575
Deupree, *Bexar*	1936	.....	3	3	3	986	986
Dunlap, *Caldwell*	1931	.....	10	10	40	17,213	177,969
Dunlay, *Medina*	1938	.....	.....	.....	.....	.....	985
Eckert, *Bexar*	1928	.....	99	99	50	18,613	1,032,839
Elgin, *Bastrop*	1941	.....	.....	.....	.....	.....	1,648
Ellison-Young, *Caldwell*	1937	.....	11	11	15	6,714	162,989
Espanda Mission, *Bexar*	1926	.....	.....	.....	.....	.....	77
Fairfield, La Coste, *Bexar*	1938	.....	.....	.....	.....	282	4,945
Gas Ridge, *Bexar*	1937	.....	65	65	30	11,658	74,922
Green Branch, *McMullen*	1944	3	.....	3	55	29,561	51,436
Hilbig, *Bastrop*	1933	14	.....	14	525	233,010	2,338,430
Imogene, *Atascosa*	1942	20	4	24	500	180,270	339,467
Jones, *Bexar*	1916	.....	.....	.....	.....	318	942
Kimbro, Manda, *Travis*	1934	.....	4	4	1	319	18,699
La Verina, Elm Creek, *Guadalupe*	1939	.....	37	37	25	10,785	65,587
Larremore, *Caldwell*	1900	.....	.....	.....	.....	.....	343,124
Lentz, *Bastrop*	1941	.....	3	3	20	7,827	40.793
Leona River, *Zavalla*	1945	1	.....	1	1	486	486
Lone Oak, *Bexar*	1935	.....	.....	.....	.....	.....	2,000
SOUTH CENTRAL TEXAS—Continued							
Luling-Branyon, *Guadalupe-Caldwell*	1923	.....	742	742	4,000	1,562,565	86,557,249
Lytton Springs, *Caldwell*	1925	.....	142	142	200	75,742	8,290,211
Manford, *Guadalupe*	1929	.....	1	1	15	6,035	508,009
Mathews, *Williamson*	1933	.....	10	10	10	3,970	152,364
Minerva-Rockdale, *Milam*	1921	.....	422	422	150	53,013	3,895,610
Noack, *Williamson*	1939	.....	32	32	30	11,601	478,442
Ottine, *Gonzales*	1902	.....	.....	.....	.....	.....	12,000
Pearsall, Austin Chalk, *Frio*	1935	2	20	22	225	96,735	2,749,520
Pearsall, Navarro Sand, *Frio*	....	15	9	24	900	325,255	
Poth, *Wilson*	1943	.....	.....	.....	.....	.....	100
Riddle, *Bastrop*	1938	.....	2	2	25	9,411	114,611
Salt Flat, *Caldwell*	1928	1	255	256	1,675	631,085	45,879,304
Salt Flat, N., *Caldwell*	1939	.....	.....	.....	.....	.....	33,748
Schattel, *Frio*	1938	.....	.....	.....	.....	.....	633
Schimmel-Batts, *Bastrop*	1935	.....	.....	.....	.....	.....	7,000
Somerset, *Bexar-Atascosa*	1917	.....	336	336	145	54,874	11,863,525
Southton (Yturri-Southton), *Bexar*	1922	.....	102	102	35	12,340	704,958
Spiller, *Guadalupe*	1938	.....	3	3	7	2,684	15,926
Staples, *Guadalupe*	1935	.....	.....	.....	.....	.....	1,000
Stockdale, *Wilson*	1945	.....	.....	.....	.....	685	685
Taylor-Ina, *Medina*	1901	.....	.....	.....	.....	450	165,789
Tenney Creek, *Caldwell*	1940	1	23	24	125	57,081	471,162
Thrall, *Williamson*	1915	.....	21	21	65	22,164	2,550,783
United, *Guadalupe*	1944	1	1	2	10	5,728	13,131
Von Ormy, *Bexar*	1935	.....	108	108	35	13,712	307,333
Walnut Creek, *Caldwell*	1938	.....	.....	.....	.....	.....	4,134
Yoast, *Bastrop*	1928	.....	5	5	25	8,669	972,699
Zoboroski, *Guadalupe*	1936	.....	10	10	30	11,362	280,054
Total, South Central Texas	....	65	3,077	3,142	16,862	6,867,546	243,213,140
UTAH							
San Juan, *San Juan*	1910	.....	.....	.....	.....	.....	14,000
Virgin, *Washington*	1908	.....	.....	.....	.....	.....	191,300
Total Utah	....	.....	.....	.....	.....	.....	205,300
WEST VIRGINIA							
Total West Virginia	....	.....	17,268	17,268	7,400	2,862,000	427,058,000
WYOMING							
Badger Basin, *Park*	1931	6	.....	6	200	79,935	683,900
Bailey Dome, *Carbon*	1945	2	.....	2	250	106,580	106,580
Beaver Creek, *Fremont*	1945	.....	1	1	14	5,475	5,475
Big Hollow, *Carbon*	1944	.....	2	2	10	4,380	4,380
Big Medicine Bow, *Carbon*	1935	.....	7	7	425	182,135	4,661,062
Big Muddy, *Converse*	1915	.....	154	154	1,325	541,660	28,845,200
Big Sand Draw, *Fremont*	1944	2	.....	2	1,600	333,245	333,245
Black Mt., *Hot Springs*	1925	.....	5	5	.....	.....	304,955
Byron, *Big Horn*	1906	.....	41	41	3,250	2,429,440	13,943,411
Circle Ridge, *Fremont*	....	.....	10	10	750	260,610	843,562
Cole Creek, *Natrona*	1938	.....	37	37	1,475	568,305	2,413,673
Cooper Cove, *Carbon*	1944	.....	2	2	75	27,375	40,551
Crooks Gap, *Fremont*	1944	4	.....	4	2,150	529,250	533,276
Dallas Derby, *Fremont*	1883	.....	34	34	420	155,855	3,756,757
Dutton Creek, *Carbon*	1927	.....	3	3	36	14,965	351,507
Elk Basin (Light), *Park*	1915	.....	122	122	350	136,145	11,995,230
Elk Basin (Tensleep), *Park*	1942	12	80	92	7,060	2,911,970	7,824,370
Elk Basin, S., *Park*	1945	2	.....	2	900	116,070	116,070
Four Bears, *Park*	1928	.....	2	2	.....	6,570	8,766
Frannie, *Park*	1928	.....	35	35	4,500	1,517,670	10,298,604
Garland, *Big Horn*	1930	.....	41	41	4,250	1,166,175	7,126,788
Gebo, *Hot Springs*	1943	10	.....	10	2,500	671,965	834,835
Golden Eagle, *Hot Springs*	1944	2	.....	2	.....	1,825	1,825
G. P. Dome, *Carbon*	1943	.....	2	2	3	730	1,462
Gooseberry, *Park*	1937	.....	1	1	100	17,155	37,125
Grass Creek, *Hot Springs*	1914	.....	344	344	2,800	1,041,345	34,120,562
Graybull (well shutin), *Big Horn*	1907	.....	11	11	.....	.....	346,730
Half Moon, *Park*	1944	4	.....	4	250	46,720	46,720
Hamilton, *Hot Springs*	1913	.....	34	34	1,500	900,090	7,830,550
Hidden Dome, *Washakie*	1933	.....	16	16	25	7,665	409,530
Horse Creek, *Laramie*	1943	.....	2	2	48	10,950	34,228
Hudson, *Fremont*	1914	.....	29	29	235	87,235	2,588,141
Iron Creek, *Natrona*	1922	.....	4	4	13	4,380	41,496
Kirby Creek, *Hot Springs*	1944	.....	7	7	18	12,410	19,364
La Barge and N. La Barge, *Sublette*	1923	.....	144	144	1,415	528,155	9,758,207
Lance Creek, *Niobrara*	1918	116	117	233	14,100	5,462,590	69,122,519
Lance Creek, E., *Niobrara*	1944	4	.....	4	275	82,125	105,183
Little Buck Creek, *Niobrara*	1944	2	.....	2	175	49,640	62,450
Little Buffalo Basin, *Park*	1944	.....	8	8	600	274,480	282,532
Lost Soldier, *Sweetwater*	1915	.....	58	58	3,000	1,524,970	29,820,693
Mahoney, *Carbon*	1930	.....	10	10	400	212,430	1,933,426
Mahoney-L.E.-Ferris, *Carbon*	1940	.....	2	2	10	2,190	571,056
Maverick Springs, *Fremont*	1922	.....	42	42	775	337,625	2,633,895
Midway, *Natrona*	1930	.....	.....	.....	.....	.....	175,886
Mule Creek, *Niobrara*	1919	.....	42	42	258	98,915	1,769,950
Mush Creek, *Weston*	1945	.....	1	1	18	4,380	4,380
Notches, *Natrona*	1923	.....	6	6	285	117,530	565,518

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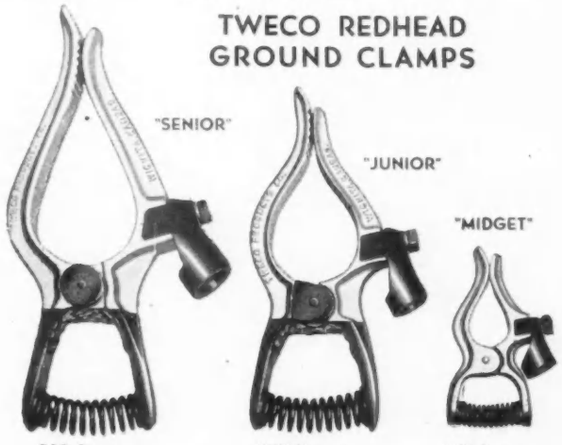

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PRODUCING WELLS AND PRODUCTION IN U. S. OIL FIELDS

Field, *County*	Year of Discovery	Oil Producing Wells at End of 1945			Oil Production (Barrels)		
		Flowing	Art. Lift	Total	Daily at End of 1945	Year 1945	Cumulative Through 1945
WYOMING—Continued							
Oregon Basin, *Park*	1927	.....	148	148	8,000	4,393,870	34,521,088
Osage, *Weston*	1920	.....	198	198	405	156,585	5,514,614
Pilot Butte, *Fremont*	1916	.....	12	12	272	295,650	1,875,645
Pitchfork, *Park*	1930	.....	3	3	300	119,720	171,326
Quealy	1934	.....	17	17	625	251,120	1,941,955
Rex Lake, *Albany*	1923	.....	3	3	85	19,345	332,213
Rock Creek, *Carbon*	1918	.....	52	52	2,200	859,940	24,406,044
Salt Creek, *Natrona*	1908	7	1,779	1,786	11,625	4,499,355	317,664,207
Sheep Creek, (wells shutin), *Fremont*	1935	.....	2	2	.....	.....	5,453
Shoshone (Cody), *Park*	1929	.....	2	2	50	21,170	148,568
Simpson Ridge, *Carbon*	1924	.....	3	3	13	4,745	167,230
South Casper Creek & Poison Spider, *Natrona*	1920	.....	36	36	585	228,855	4,770,425
Spindletop, *Natrona*	1928	.....	4	4	40	11,315	54,406
Steamboat Butte, *Fremont*	1943	9	.....	9	1,500	1,055,215	1,880,222
Teapot (outside Naval Res.), *Natrona*	1927	.....	2	2	12	4,745	137,547
Torchlight (wells shutin), *Big Horn*	1905	.....	20	20	.....	.....	254,709
Wagonbound, *Hot Springs*	1944	.....	1	1	205	71,175	79,959
Warm Springs, *Hot Springs*	1917	.....	28	28	78	21,170	469,229
Wertz, *Carbon*	1936	11	12	23	2,000	1,460,000	11,745,797
Winkleman Dome, *Fremont*	1944	2	4	6	250	250,025	370,073
Other Wyoming, Misc.	.....	.....	6	6	15	3,650	4,054,460
Total Wyoming	.....	195	3,788	3,983	86,103	36,318,960	667,880,695

SALIENT DATA ON PRODUCTIVE EXPLORATORY WELLS COMPLETED IN U. S. IN 1945

(Continued from page 202)

County	Field	COMPANY, WELL AND LOCATION	Date Completed	Total Depth (Feet)	[1]Completion Horizon (Feet)	[2]Name, Character and Age of Producing Formation	[3]Initial Production: Method and Choke	Gravity of Oil	[4]Prod. Wells Year End
		WEST TEXAS—Oil Field Extension—Cont'd							
Andrews	Union	Union of Cal.'s J. D. Biles 6, c se ne PSL sec 9, blk A-31, 1¼ m n by w ext.	1-13-45	7460	6950-7460	Clear Fork li; Perm	P 50	41.8	1
Cochran	Dean	Texas Gulf Prod.'s A. Slaughter 1, 560 out nwc 4440-ac lse, or 6388 wel 6136 snl lge 113, Potter CSL sur, 3 mi nw ext.	10- 9-45	5063	4965-5063	San Andres li; Perm	F 141; 18 wtr 2"	31.5	3
Cochran	Slaughter	Honolulu Oil Corp.'s R. M. Hudson 1-9, 700 nsl 1860 ewl PSL sec 9, blk P, 3¼ mi sw ext.	1-25-45	5153	5120-5125	San Andres li; Perm	P 111; 5 wtr	32.2	2
Dawson	Welch	Richmond Drlg. Co.'s J. W. Nelson 1, c sw nw E. L. & Ry. Co. 34, blk M, 2½ mi n by w ext.	1- 9-45	5003	4805-4923	San Andres li; Perm	P 167	33	7
Ector	TXL-Devo	Rowan Drlg. Co.'s T. P. Land Trust 1, c nw se T&P Ry. 29, blk 45, T-1-S, 2⅞ mi se ext.	4-11-45	7970	7826-7916	Devonian li; Devo	F 2782; ½"	42	1
Ector	TXL-Elnburger	Phillips' T. P. Ld. Trust-Phillips 1-A, c nw nw T&P Ry. 21, blk 45, T-1-S, 2¼ mi se ext.	6-29-45	9853	9680-9795	Ellenburger dolo; Ord	F 1650; ½"	43.6	1
Gaines	Russell	Shell's Wm. Pierson 1, c ne sw sec 452, blk G, CCSD&RGNG sur, 1¼ mi e ext.	5-29-45	7727	7285-7727	Clear Fork li; Perm	P 105	33	3
Garza	Hitt	Honolulu Oil-Devonian Oil's H. F. Richardson 1, 440 out swc BS&F Ry. sec 1282, 1½ mi se ext.	6-29-45	3525	3511-3525	San Andres li; Perm	P 83; 6 wtr	37.2	1
Hockley	Levelland	Magnolia's W. T. Coble 1, 660 out nwc labor 34, lge 68, Hardeman CSL sur, 2¾ mi s ext.	12-17-45	4951	4761-4867	San Andres li; Perm	P 5; 2 wtr	29.7	1
Hockely	Levelland	Texas Co.'s W. T. Coble 1, 580 out nec labor 20, lge 67, Hardeman CSL, 2¼ mi w ext.	6-12-45	4860	4760-4860	San Andres li; Perm	P 97; 30 wtr	29.4	1
Hockley	Levelland	Texas Co.'s W. T. Coble 1-B, 580 out nwc e½ labor 19, lge 67, Hardeman CSL sur, 1¾ mi w est	8-22-45	4870	4765-4870	San Andres li; Perm	P 21	29	1
Martin	Mabee	Mabee O. & G. Co.'s J. E. Mabee 1-14, c sw sw G&MMB&A 14, blk 39, T-2-N, 1¼ mi ne ext.	8- 7-45	4712	4650-4712	San Andres li; Perm	P 166	31.8	1
Pecos	Ft. Stockton	Texas' W. A. Martin 1, c sw ne T&SL 14, blk 146, 1 mi se ext.	8-31-45	2955	2873-2955	Yates sd; Perm	F 52; 1/4"	29.6	1
Pecos	Ft. Stockton	Texas' E. Riggs 1, c se ne T&SL 8, blk 146, 2 mi s ext.	4-17-45	2903	2887-2903	Yates sd; Perm	F 166; ½"	32.3	1
Upton	McCamey	Gulf's G. E. Farley 1, 660 ft ewl 3300 nsl sec 12, blk 3½, CCSD&RGNG sur, 1 mi n of nw sector fld.	12-22-45	2358	2355-2358	Grayburg li; Perm	P 142; 2 wtr	33.7	1
		WYOMING—New Oil Fields							
Carbon	Bailey	Sinclair's Coffman 1, se ne ne 21-26n-89w	2- 8-45	5234	5098-5234	Sundance sd; Jur	F 576; 2½"	34.6	2
Fremont	Sheldon	Phillips' Shoshone (C-107) 1, ne ne 16-5n-2w	9- 8-45	6974	6265-6280	Embar li; Perm	F 312; 1/2"	36.2	..
Hot Springs	Zimmerman	Pacific Western's P. C. 1, ne sw sw 36-44n-93w	11- 9-45	4332	4312-4332	Embar li; Perm	F 336	25.2	..
Hatrona	Oil Mountain	Texas Co.'s Clark 1, ne ne sw 35-33n-82w	8-10-45	3326	2640-2675	Tensleep sd; Penn	P 155; 17 wtr	....	..
		WYOMING—New Oil Pays							
Big Horn	Lamb	Hageman's Stanolind 1, se sw se 12-51n-93w	11- 2-45	3469	3440-3469	Tensleep sd; Penn	P 180; 58 wtr	....	..
Hot Springs	Golden Eagle	Pioneer's On Time-OPC 2, sw se 12-45n-97w	2-11-45	7385	7165-7202	Dakota sd; U. Cre	F 80	50	..
Hot Springs	Kirby Creek	Pacific Western's Gov't. 1, se ne ne 21-43n-92w	1-24-45	4427	3420-3493	Embar sd;li- Penn	P 20	20	..
Natrona	Midway	Kerlyn-Phillip's Kerlyn-Gov't. 1, ne se ne 23-35n-79w	11- 2-45	8430	5940-5950	Dakota sd; U Cre	P 60	39.9	..
Sweetwater	Baxter Basin	Transcal's Union Pacific 1, ne se 11-19n-104	9- 7-45	4135	-4135	Entrads sd; U Jur	F 88; 1/16"	43.6	..
		WYOMING—Oil Field Extensions							
Fremont	Steamboat	British-Amer.'s Tribal 3-c, ne sw sw 29-4n-1w, ¾ mi n ext.	1-18-45	7104	6977-7104	Tensleep sd; Penn	F 168	....	..
Hot Springs	Grass Creek	Husky, Kinney-Coastal 1, sw sw sw 20-46n-98w, ¼ mi se ext.	1-27-45	9244	4170-4230	Embar li; Perm	P 125; 125 w	24	..
Hot Springs	Kirby Creek	Pacific-Western, Kyne 1, se sw sw 22-43n-92w, ½ mi se ext.	.....	3440	3334-3440	Embar li; Perm	P 120	....	..
Park	Elk Basin	Carter's Johnson 5, ne se nw 8-57n-99w	4-10-45	5557	5495-5557	Tensleep sd; Penn	P 340	....	..
Park	Half Moon	Husky's Morrison 2, nw ne sw 25-51n-102w, ¼ mi se ext.	4-15-45	3563	3317-3400	Embar li; Perm	F 150	....	..
Park	Buffalo Basin	Stanolind's Unit 6, ne ne nw 1-47n-100w, ½ mi n ext.	5-12-45	4975	-4915	Tensleep sd; Penn	Sw 13	....	..
Sweetwater	Lost Soldier	Sharpless' Gov't. 1, nw ne nw 14-26n-90w, ¼ mi se ext.	3- 4-45	6093	5916-6087	Tensleep sd; Penn	Sw 542	....	..
		WYOMING—New Gas Fields							
Fremont	Muskrat, E.	Shannon's State 1, sw nw ne 16-33n-91w	9-14-45	4585	3037-3250	Frontier sd; U Cre	F 10 mln	....	..
Park	Elk Basin, S.	Continental's Goodstein 1, ne se sw 20-57n-99w, 3 mi s nearest Tensleep prod. in Elk Basin, on sepr. high.	7- 6-45	7166	6971-7166	Tensleep sd; Penn	P 594	29	..
		WYOMING—New Gas Pay							
Fremont	Steamboat	British-American's Tribal 7-C, ne sw sw 32-4n-1w	.....	3294	3260-3294	Frontier sd; U Cre	F 5 mln	....	..

[1] "Completion horizon" indicates depth interval from which production came in discovery well. [2] Character of producing formations abbreviated thus: ch, chalk; dolo, dolomite; li, limestone; sd, sandstone; sh, shale; ser, serpentine; cgl, conglomerate. Ages of formations abbreviated thus: Pleis, Pleistocene; Plio, Pliocene; Mio, Miocene; Olig, Oligocene; Eoc, Eocene; U. Cre, Upper Cretaceous; L. Cre, Lower Cretaceous; Jur, Jurassic; Tri, Triassic; Perm, Permian; Penn, Pennsylvanian; U. Miss, Upper Mississippian; L. Miss, Lower Mississippian; Devo, Devonian; Sil, Silurian; Ord, Ordovician; Cam, Cambrian.

[3] Barrels of oil per day (24 hr. rate) flowing (F), pumping (P), swabbing (Sw), or bailing (B); or million cubic feet of gas daily open flow capacity; size of choke given in inches.

[4] This final column shows number of producing wells at end of 1945 in the new field, new pay zone, or extension area opened by the productive exploratory well listed.

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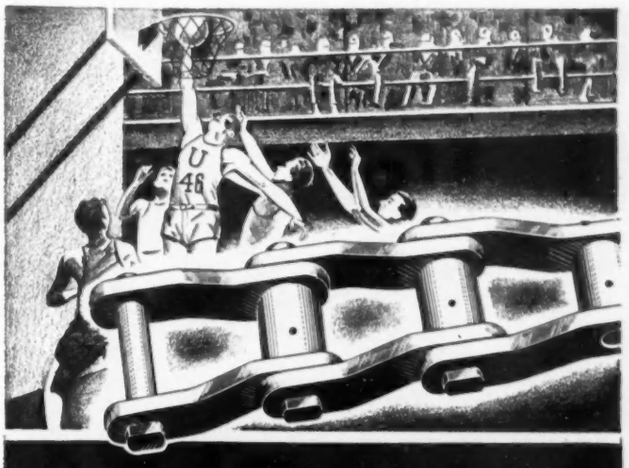

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A. P. I. No. 4 P Union *Toolpusher* No. 1240-RXX
A. P. I. No. 4 P Union *Driller* No. 1240-R 4
A. P. I. No. 4 C Union *Roughneck* No. 1240-RX
A. P. I. No. 3 P Union *Toolpusher* No. 1190-RXX
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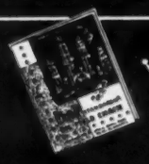

Union Bulletin O-1 covers Oil Field Chain. Ask for your copy.

UNION CHAINS

Auxiliary Platform, Hinged to Truck Frame, Provides Safe Stand for Operator

PORTABLE RIGS

Expediting operation as well as the setting up and tearing out of portable well-pulling units, are the collapsible walkways devised by one operator. Telescoping extensions were built on the ends of the two principal lateral members of the bed supporting the drawworks unit, slots in the unit base I-beams being cut out to match similar slots in lengths of angle iron, as shown. The angle iron sections slide out approximately two feet and atop these two arms is placed a unitized pair of planks, these matching in length and thickness the other planks forming the remainder of the walkway closer in to the unit.

While set up at the well, this extra-width platform extends out far enough to permit a man to crank the engine as well as to operate controls without fear of slipping off the side. A light chain, one end attached to the planking section and the other tied to the unit, prevents the planking unit from slipping or due to vibration. When the unit leaves the well to travel on public roads, the plank unit is removed and tied up against the machine and the extension arms are slid back into the I-beam. No projections extend beyond the limit of the wheels.

Additional service from the platform is secured through the fact that it covers the dual tires on that side, protecting them alike from sun and accidental injury.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

Condensers Minimize Exhaust Noise and Condensate Throw

STEAM HANDLING

Where the feed water must be treated to remove hardness or dissolved materials which tend to form scale in the boilers, it is good economy to conserve as much of the condensate recoverable from the exhaust steam as possible, reusing the water in the boilers after skimming or otherwise removing the oil droplets which are present in the exhaust from the drawworks engines.

One drilling contractor utilizes a dual condenser and exhaust muffler, into which are piped exhausts from both drawworks engine and pumps. Relatively small vent pipes atop these units permit excess volume of steam to escape without building up excessive backpressure on the equipment, but insure that the full cooling capacity of the unit is obtained.

The condensers consist of drums of "big inch" pipe, equipped with welded-in perforated baffles draining down along the inside of the shell while the incoming steam rises through the center. The two pipe sections are mounted on a common skid, and brazed to it and each other to snub excessive vibration.

In service, the skid is placed on end, enabling the two condensers to rest firmly on end also, and the exhaust lines and water-drain line are then tied in with quick-acting unions which also act as swing joints to relieve the lines of excess stress which otherwise might be set up by vibration or expansion.

To prevent the excess steam at times vented by the condensers from drifting across the derrick floor and obscuring operations there, the exhaust lines carry 90-degree bends, so as to direct the exhaust away from the rig and boiler setting.

Space between the condensing units, while on the move, serves to accomodate odd lengths of piping and other light parts of the rig equipment.

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"REFLEX"
WATER GAGE SET

For oil field, locomotive type and marine boilers. Water shows black — steam shows white; the water level is unmistakable. U-Bolt construction is strongest and simplest to service. Glass replaced by simply removing nuts on face of gage . . . unnecessary to work between gage and boiler. Conforms with A.S.M.E., Federal and State requirements when used for pressures specified by their respective codes.

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See Pages 2450 to 2455, Composite Catalog.

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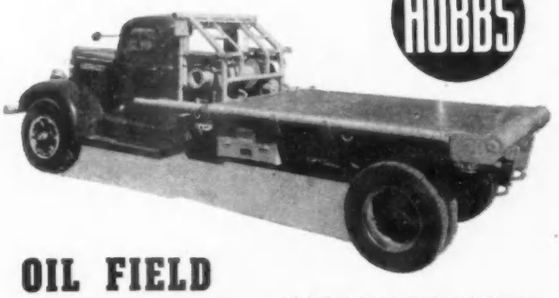

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TO
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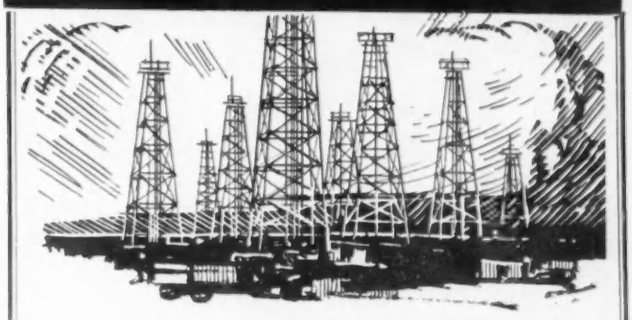

Beginning at Petrolia back in 1908 with only a span of mules, our operations during the past thirty-eight years have extended into California, Colorado, Oklahoma, Arkansas, Mississippi, Louisiana, and all of Texas. From Electra, Smackover, Mexia and Burkburnett to the present, our records show more than 2,000 oil and gas wells drilled under every condition. We have helped push derricks higher — and pipe lower, past 12,000-foot levels in the search for crude. We have used everything from the makeshift equipment of other days to our present modern rigs with gasoline, heavy steam, electric and diesel power. The experience we have gained is invaluable and the 250 men in our organization have a knowledge of drilling second to none in the business. We have come a long way in these thirty-eight years and we're proud of our part in helping develop the industry. We look forward to new development with the same anticipation that we had in 1908.

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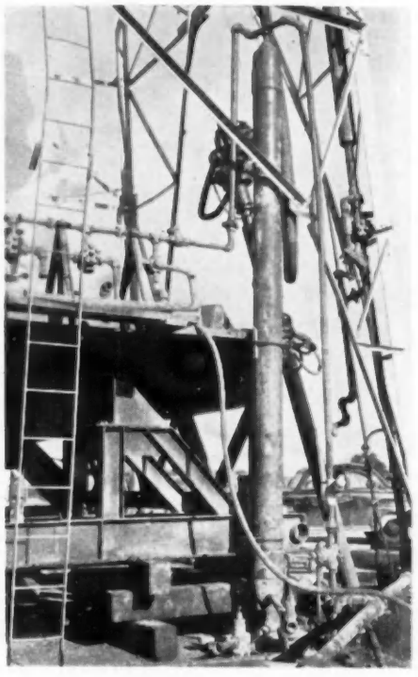

PREVENTER OPERATION

On workover jobs where water pressure is not available to operate the blowout preventer equipment, these devices must be operated by the pressure from the mud pumps. In order to prevent drilling mud from contaminating the cylinders of the blowout preventers, one company uses a standpipe which has previously been filled with clear water. The connection from the discharge of the mud pumps is made at the bottom of the column and the connection to the blowout preventer manifold is made at the top.

Since no flow is created when the blowout equipment is not being operated, the column of pipe remains full of water. When the blowout preventers are used, there is sufficient water in the pipe to open and close the preventers several times before the mud reaches the top of the standpipe.

After every operation of the blowout preventer equipment, the mud pump line is shut off and the mud is drained from the column and it is washed out with fresh water. The pipe is then refilled and the mud pump pressure returned to the bottom of the pipe for future use of the preventers.

Stiffener Below Derrick Floor Extends Dead-Line Stresses

DEAD-LINE ANCHORAGE

In order to strengthen the footing for the deadline anchor, one operator combines both the security of the corner concrete base plus a rigid leg under the derrick floor members. A reinforced I-beam member some five feet long is placed across the corner of the derrick floor sills as illustrated and there held in place by a short length of drill pipe extending on down to the concrete footing. The dead-line anchor is attached to this base, upthrust against the derrick being distributed over a wide area, and in the position most capable of withstanding the heavy well loads. This practice is followed by numerous rigs drilling in an area where production lies at depths of 8000 to 10,000 feet, and excellent results are being realized.

Use of the stiffener unit distributes the lift of the dead-line across the entire corner of the derrick, effectively opposing one quarter of the entire dead load of the rig against the lift of the derrick line, and eliminating the concentration of stress occasioned when the same lifting force is countered only by the connection at the corner of the rig formed by the two connecting sills.

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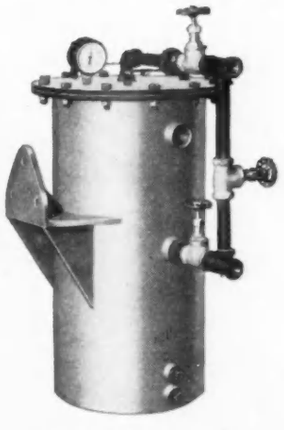

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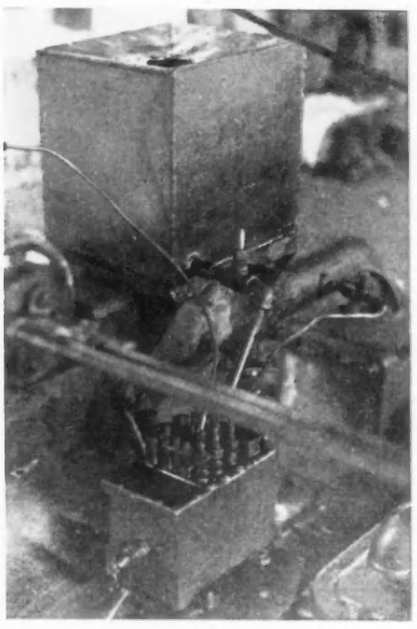
Steam-Heated Lubricant Container Speeds Servicing

LUBRICANT TRANSFER

Assuring constant-temperature, low-viscosity lubricating oil for the steam-engine lubricators, the heater devised by one driller is simple to construct and fool-proof in operation. A square all-welded container was mounted atop the manifold of the steam end of the draw-works engine. Heat from the steam fittings keeps the oil in quick-flowing condition, assuring efficient operation of the lubricator, keeping feeder lines open and conditioning the fluid so it will more readily atomize in the live steam into which it is injected.

The cubcal-shaped container has a top which makes refilling very simple. It is dish-shaped inwardly, so that if, in the haste of pouring the oil, the man spills some beside the filler hole, the overflow will run down into the reservoir. In addition to conditioning the oil, the reservoir assures an ample quantity on hand should refilling of lubricators be accidentally overlooked during a long uninterrupted run.



Sucker-Rod Braces Eliminate Stack Vibration

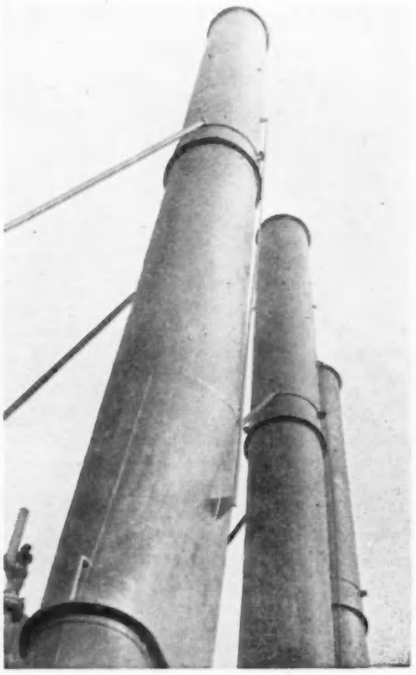
STACK BRACING

To lend additional strength to the high stacks of a high-pressure modern boiler setting, one company has adopted the practice of stiffening them with lengths of sucker rod material. Spanning approximately the center one-half of the stack, a single rod is welded at each end to a lug attached to the shell of the stack. Such strengthening serves to give the stack more rigidity during high winds, as well as to hold the bolted sections together firmly when they are being lowered for transporting to another location.

By threading one end of the rod, and allowing it to project through a tubular opening in one of the brackets, the tension on the brace may be varied within wide limits, enabling the unit to be opened to permit dismounting of the stack into two parts for easier hauling, as well as affording better adjustment of the band which clamps around the stack to provide anchorage for the stiff-leg struts which brace stack to boiler shell of skid mounting.

Addition of a cross plate to the one carrying the rod end prevents vibration and adds considerable stiffness to the set-up.

While the stiffener is permanent for all practical purposes, a touch of a cutting torch will remove it should the two stack sections have to be disassembled.



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In oil field engines, the extreme heats generated by gas fuel place a heavy burden on valve stems, piston rings and cylinder walls. Critical top cylinder areas do not receive even the small benefit of the scant lubricating value in liquid fuels. That's why the use of Marvel Mystery Oil with the Marvel Inverse Oiler has become standard practice wherever gas fueled engines are in service. For, where ordinary lubricants lose their function and normal film strength breaks down, Marvel Mystery Oil sustains its remarkable efficiency.

The Marvel Inverse Oiler proportions the flow of Marvel Mystery Oil precisely to the needs of the engine. Its cost is low and installation simple. Ask us to show you what this combination can do in reducing your "down" time for engine overhauls. Emerol Manufacturing Co., Inc., 242 W. 69th St., New York 23, N. Y.

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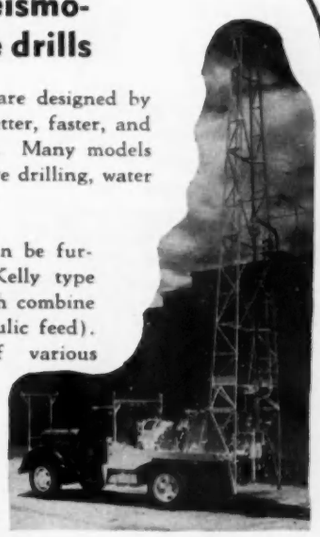
Model FA (illustrated) can be furnished with or without Kelly type drilling attachments (which combine rotary method with hydraulic feed). Available with masts of various lengths.



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For more detailed information see pages 2814 and 2815, Composite Catalog.

STERLING
MACHINERY CORPORATION
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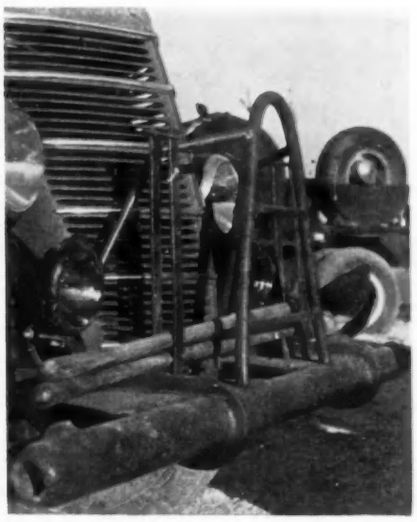
Front-End Shovel Rack Protects Tools Against Loss

HAND TOOL STORAGE

When one gang pusher discovered that the men were finding it convenient to place the shovels behind the grill guard on the bumper of the truck, rather than discourage this unsafe practice, he had the welder fashion a shovel rack which would be both safe and convenient. By placing two upright pieces on either side of the grill guard, so that the shovels would fit snugly between and by fastening a linkage at the top to hold the shovel handles firmly during transit, it was found that this rack provided a safe convenient storage unit.

The upright pieces are made from quarter-inch strap iron, welded firmly at the lower end to the plate which provides the bumper support. A link made from ⅜-inch bar stock is bent into rectangular shape and hinged to the rear upright strap. The top of the front upright piece is bent slightly out at the top so that the link will fit securely. This rack has been in use for several months with the shovels always at a convenient location but not in danger of becoming disengaged from the holder and causing an accident.



Slots in Trailer Bed Improve Securing of Loads

MATERIAL HANDLING

Providing their heavy oilfield duty trailers with two instead of the usual single bolster slot has greatly simplified the work of one oilfield operator. Purpose of this is to provide a choice of slots when hauling tubular goods. It was found that ability to choose between the two holes resulted in better operation of the truck and trailer, particularly on sharp turns encountered in oil leases. Range 2 tubing for example, was easier to handle if the bolster was mounted in the slot several feet to the rear of the other. Other types of loads requiring a bolster also are adjusted in accordance with the need. Very little extra time and material are involved in providing the additional slot and the results obtained fully justify the installation.

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The Outlook

More flexibility in the Administration's price policy which may be of benefit to the oil industry is seen as the outcome of the recent tying-in of higher ceiling with higher-wage demands. Also there is the steadily increasing opposition to continuance of price control if the OPA's stonewall attitude is to keep needed commodities off the market or lead to the stringing out of labor controversies.

* * * *

Some important news on taxes is due to break in the near future, when the Treasury lets Congress in on its views on tax rates, and certain sections such as percentage depletion. The Administration is against further tax reductions at this time, but many members of Congress believe tax relief will make votes next November.

* * * *

A real and acute freight car shortage is being experienced which may have world-wide repercussions by slowing down the movement of export goods. Relief exports are requiring a large number of cars and shipments of civilian goods coming back on the market require many more. Also the inevitable end-of-the-war relaxation is building the situation up to where it may soon be a definite emergency.

* * * *

The Senate vote on the tidelands resolution, if it reaches the floor, will prove a sharp defeat for the administration and the Department of Justice suit. Since the issue cuts across state lines, the administration will be unable to hold some of its staunchest supporters. Final enactment of the legislation would be followed by withdrawal of the government litigation.

* * * *

Final accounting for the many billions of dollars worth of surplus war goods now being disposed of by the government will show a return of probably no more than 50 cents on the dollar. So far, property originally costing $1,370,730,000 has been disposed of for $669,632,000. More than $8 billion worth of goods and properties is in the surplus inventory, with accessions coming in at the rate of about $2 billion a month.

* * * *

The British loan agreement will make its congressional race on a slow and slippery track, with lengthy hearings before committees and considerable opposition, mostly politically based. Both House and Senate Banking Committees will go into the matter exhaustively, with a view to marshaling all the information and arguments in favor of the loan for use in expected lengthy debate on the floor.

* * * *

Price controls on petroleum products will be lifted on or before June 30, in the expectation of top industry officials. Controls are expected to continue on crude.

* * * *

Profits of most oil companies will decline during the first quarter of 1946 as compared with the corresponding period last year, directly reflecting setbacks which the industry is undergoing due to current strikes and materials shortages.

* * * *

Despite the steel shortage which is becoming progressively worse, Kansas oil operators are stepping up operations, a third consecutive week of the upward trend being registered. Operators are drawing pipe from stock and can continue for at least another 30 days. Beyond that period, it's anybody's guess.

* * * *

Selective crude oil buying is reported in the Mid-Continent area indicating a too high rate of production with fears being expressed that crude oil prices will not only continue low but may even go lower. Gasoline stocks are increasing and storage capacity may be reached by April 1. State regulatory bodies may have to reduce oil allowables to meet the situation.

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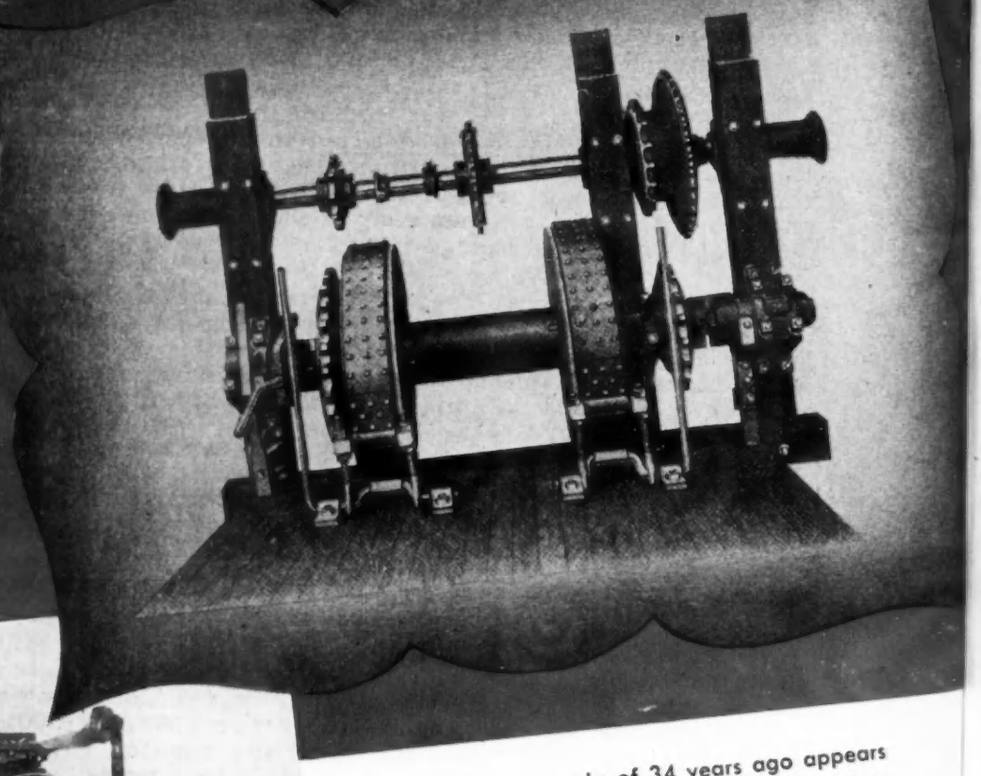

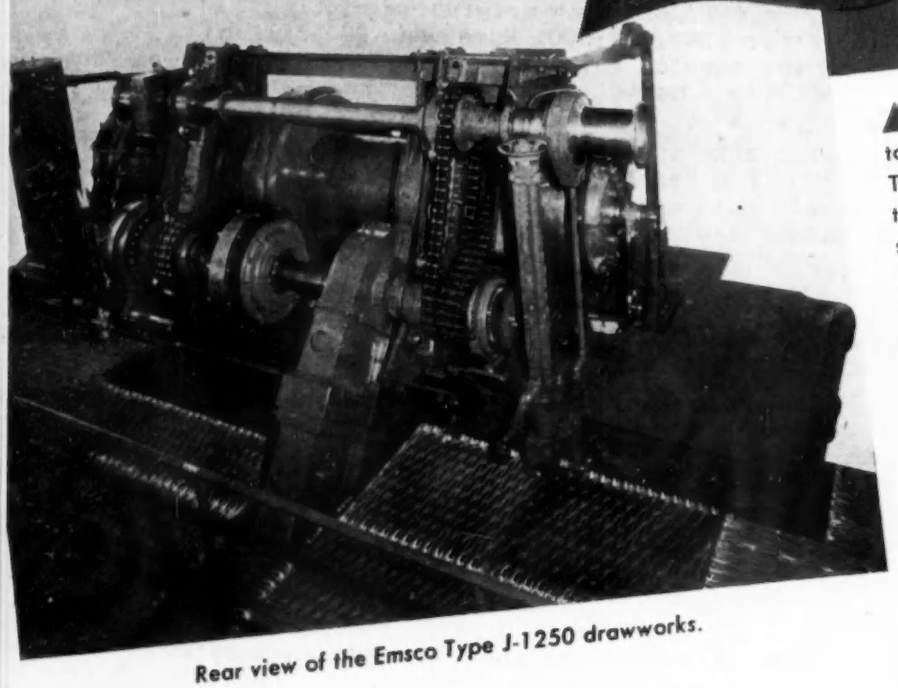

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The Week's News

TIDELANDS oil was the outstanding subject of discussion in Washington last week. Hearings were held by the Senate Judiciary Committee on the resolution relinquishing federal claims to the submerged lands and it also figured extensively in the investigation by the Senate Naval Affairs Committee of the nomination of Edwin W. Pauley to be Undersecretary of the Navy.

Tidelands Legislation—Before the Judiciary Committee, Secretary Ickes defended strongly his proposal that the Supreme Court be permitted to pass on the ownership of the tidelands, then boiled the whole matter down to the single issue which always has been its backbone—the underlying oil—by proposing an amendment to the legislation quit-claiming all other lands to the states. He was followed by officials of more than a score of states, protesting both a court decision and the "giving away" of claims to any underwater lands, pointing out that if the government owned the tidelands, it also owned those under river beds and lakes. Story below.

Ickes Strikes at Pauley—Ickes also was credited with damaging Pauley's chance at confirmation when the matter comes to a vote, by his testimony that the California oil man had put a price, in oil man campaign contributions upon the pigeon-holing of the Supreme Court suit. Page 256.

Davies for Interior?—Deputy Administrator Ralph K. Davies has been suggested for the post of Undersecretary of the Interior formerly held by Abe Fortas, but may be passed by because of his California oil connections and his friendship with Pauley. Since the latter was to be put in the Navy Department with a view to succeeding James Forrestal as secretary, the question arose whether the idea might not be similarly to groom Davies to take over Interior.

Synthetic Rubber Status—Conditions in the Far East indicate that relatively little rubber will come out of that area in the immediate future, and the domestic synthetic production will be needed in volume for two years or more, according to government rubber officials. Page 255.

Big Nitro Shot—Five thousand quarts of nitroglycerine were exploded in a Turner Valley, Canada, well. Results so far have not been determined. Page 284.

FPC Gas Hearing—Ratable taking, casinghead gas problems and consideration by FPC of end-use of gas in determining rates were all aired as the FPC closed its natural gas hearing in Houston and moved on to Biloxi. Page 259.

New York and Fuel—The tug boat strike has New York in a bad spot insofar as fuel supplies is concerned. Page 264.

PeMex Opens Purchase Office—Petroleos Mexicanos hereafter will do its purchasing of equipment, etc. in Houston. Rodolfo Fernandez is in charge. Page 252.

Big Inch on Maintenance—No offers have been received by RFC relating to purchase of the Big Inch pipe lines. Page 262.

Industry's Big Inch Answer—Two sub-committees are preparing an answer to the SPA's recommendation regarding Big Inch disposal. Story below.

Reed Cancels CIO—Reed Roller Bit Company last week cancelled its contract with CIO, out for a prolonged period on strike. Other labor developments. Page 257.

Senate Committee Approval Expected For Bill Giving Tidelands to States

A favorable report by the Senate Judiciary Committee on the bill to quiet title submerged lands in the state, was expected last week after state officials from Maine to California had appeared before the group in support of the measure.

At the close of the hearings Senator McCarran said it might be some time before a report is made because of the volume of the record to be compiled and studied. However, the questioning of committee members and the known position of several indicated that they were favorably impressed with the need for such legislation and it is expected a recommendation that it be passed will be forthcoming shortly.

The bill, if passed, would head off the government suit on the same subject, now pending before the Supreme Court.

Already passed by the House, the legislation needs to be approved by the Senate and accepted by the President to have all the force and effect of law. Once Congress has ruled that the submerged lands belong to the states, there would be nothing for the Supreme Court to pass upon and the government's suit would fall.

Before the state officials began the presentation of their case, Secretary of the Interior Ickes told the committee that it would be a mistake to pass the resolution relinquishing all federal claim to lands worth hundreds of millions of dollars as real estate alone and other millions as possible sources of oil and other natural resources.

"There are reasons of the greatest importance why the federal government rather than California should control the oil which lies in the ocean bed off the coast of California," Ickes declared. "I do not say that the Supreme Court will decide the case in favor of the United States. I do say, however, that there is a substantial chance that it will do so, and that it would be far better for the nation if the oil were under federal rather than state control."

Ickes reminded the committee that the war was fought with oil and "we won because we had the most oil."

"The experts tell us, atomic bomb or no atomic bomb, we will have to occupy the enemy country before we can win

Industry Answering Pipe Line Plan

Industry representatives are answering recent SPA proposals concerning disposal of government-owned pipelines and aviation gasoline plants, these supplemental reports to be filed shortly with the Senate Special Committee Investigating Petroleum Resources.

The SPA recommendations generally are considered at variance with industry's own thinking as set forth in the first report to the O'Mahoney Committee. The supplemental reports are being prepared by two industry subcommittees, one on the disposition of the pipelines headed by B. I. Graves, vice president of Tide Water Associated Oil Company and the other on aviation gasoline plants headed by Hines Baker of Humble Oil & Refining Company, Houston.

SPA is understood to have approved extension of the time for consideration of its report beyond the February 14 deadline originally set after W. Alton Jones, president of Cities Service Company, and chairman of the District 1 General District Committee, gave notice that industry would make reply.

Industry rebuttal will stress the fact that the SPA proposals are in effect a back-door method of putting the government in the oil business, and the agency is unsound in its economic analysis of the possible operation of the Big Inch and Little Big Inch by the government.

any future war," he continued. "This means oil, and in prodigious quantities.

"The submerged coastal lands are the greatest potential reserve of oil which we have. Nowhere else in the nation can we so sensibly and easily plan to explore and set aside federal petroleum reserves.

"If, on the other hand, these lands are under state control, the history of the California fields indicates that the oil will be produced and used just about as fast as it can be got out. California has always produced oil and natural gas wastefully and recklessly. Other states may enact conservation laws providing for a more prudent use of this irreplaceable resource, but not California.

"Here is a field for the crusading efforts of Attorney General Kenny and I do not doubt that fellow state attorneys general would also support any efforts of his that would be in a direction of protecting the national interest."

Ickes traced the history of the offshore-lands controversy, stating that "beginning as early as 1926, some of the lawyers began to wonder if the United States rather than the state did not own the submerged coastal lands." At that time, Assistant Secretary Finney held that the lands belonged to the state and Ickes himself signed a similar statement in 1933.

"Applicants and their lawyers" continued to insist that the government owned the lands, he continued, "so we began to have doubts," and eventually he changed his mind.

A Legal Question

"I should point out, however, that I have never attempted myself to resolve this difficult question of law, but have simply refused to renounce any claims which the United States might have to these lands," the secretary said. "It has always seemed to me to be a legal question, not appropriate for either legislative or executive decision, but exactly the sort of question which the federal courts were created by the constitution to decide."

Challenging the contention of the states that there is no question as to title, Ickes asked: "If the law is so well settled, why not permit the court to speak."

If the Supreme Court should decide the issue in favor of the government, he said, the states concerned and those who have operated under state law should be relieved from any liability for damage in trespass for any past development of the submerged land, and should not be required to account for oil or gas extracted before the date of the decision and leases and contracts for operations on submerged lands outstanding when the suit was filed should be continued in force and effect by the federal government, at least as to royalty rate and time limit. Structures, such as docks or piers, which may have been erected on the submerged lands and the surface ownership of filled-in areas should not be disturbed if they were erected or filled in accordance with the federal or state law.

Also, he said, Congress should enact a federal policy for the conservation of the submerged oil, embracing the following five points:

"1. These lands should be held as a federal oil reserve. Their administration should be coordinated with that of other federal oil reserves.

"2. The lands should be explored geologically and geophysically by the Department of the Interior. Methods and plans should be provided for the development of any oil and gas-producing structures against the event of emergency needs.

"3. Authority should be given the Secretary of the Interior to permit him to exchange or acquire lands, and to lease and permit development when drainage of oil and gas from the submarged lands occurs or is threatened by on-shore operations on adjoining lands.

"4. When such lands are leased, because of the drainage which would otherwise occur, operations on the submerged lands should be coordinated with the onshore operations, so as to avoid competitive development and consequent wasteful practices. Such coordination should be accomplished readily where the adjoining states have adopted or would adopt and enforce adequate legislation for the regulation of production; otherwise unit agreements with the adjacent operators should be negotiated.

"5. The interests of navigation should be protected in connection with any leasing of submerged lands. This would involve coordinated action by the War and Interior Departments. In view of the importance of recreation in some of the areas, interference with seashore recreation facilities should be avoided."

Ickes told the committee the Mineral Leasing Act of 1920 is not applicable to submerged lands, and would not fit in their administration without amendment.

Finally, he said, the legitimate interests of advocates of the legislation could be protected by an amendment to the resolution quitclaiming to the states and their grantees all federal claim to submerged lands beneath navigable rivers, streams, lakes, harbors and bays, which would take out of the measure everything except the submerged coastal lands, and providing also that the submerged lands, too, shall be quitclaimed in the event of a final determination by the Supreme Court that they are owned by the several states.

The Secretary was followed by Orin Demotte Walker, Washington attorney for Robert E. Lee Jordan, representing a group of applicants for federal oil leases, who contended that only the 13 original states and Texas owned their submerged lands and argued that congress can give title to the states only to the lands and not to the mineral rights.

Jordan later testified that he filed an application with the Interior Department in 1937 for a location at Long Beach Harbor, Calif., and that the city had given leases on "my" land, where 28 wells were drilled and much oil removed, charging that the legislation in Congress is the result of "efforts of oil men to protect their ill-gotten gains."

Senator Alexander Wiley of Wisconsin pointed out that Ickes had testified that if the government got the lands the oil men would pay less royalty than they pay to the state, so there seemed little ground for Jordan's charge.

His attorney, Walker, claimed the legislation is "a cloud on the federal government."

Kenny Charges "Grab"

Robert W. Kenny, California attorney general, charged the government with attempting a "grab" of state lands and alleged that "certain" federal officials are attempting to centralize in Washington "the control and ownership of an enormous amount of lands and natural resources which have in the past always been held and administered by the states."

Kenny challenged statements by Ickes that the government suit affected only

PeMex Purchasing to Be Centered in Houston Office

Rodolfo M. Fernandez has taken over as chief of purchases of Petroleos Mexicanos, government-controlled oil company in Mexico, in charge of the Houston office.

R. M. Fernandez

The appointment of Fernandez came with the announcement that Petroleos Mexicanos would expand considerably its office in Houston.

"The flow of material for operation and maintenance of the Mexican petroleum industry is of paramount importance," Fernandez said. "A majority of this oil field material required by Mexico's petroleum industry is purchased in the United States."

Fernandez said that under the new setup, all purchases of oil field equipment by Petroleos Mexicanos in the United States will clear through the Houston office. New equipment is required by Petroleos Mexicanos in order to carry out its exploration and drilling program during 1946, he said.

Fernandez first became associated with the oil industry in Mexico in 1922 when he joined Huasteca Petroleum Company as construction superintendent for a gasoline plant. Later he worked for the company on drilling rigs and in pipe line construction projects.

After working as construction engineer with Oil Field Contractors at Tampico, he organized his own oil field construction company and expanded into highway building and construction of public works throughout the Republic of Mexico.

In 1938 he was called by Petroleos Mexicanos as technical adviser to its general manager. He was appointed Washington representative of Petroleos Mexicanos in 1941 and also became petroleum attache to the Mexican Embassy in Washington.

Carlos Alvarez Garcia will remain in the Houston office as assistant to Fernandez.

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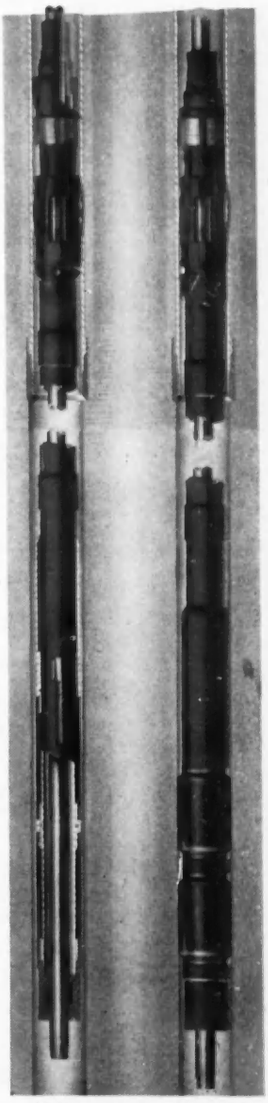

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the specified lands in California, pointing out that former Attorney General Biddle had stated that it would "clarify" the titles of the inland states to the beds of their navigable rivers, among other things, and that present Attorney General Clark asserts that no coastal state, not even the original 13, ever owned any of the lands along the seacoast or within the three-mile limit.

The legislation before the committee, he emphasized, has nothing whatever to do with the continental shelf, and the states are making no claims to that area.

Kenny scoffed at the contention that Congress should not act on the issue until the suit is settled, asserting that such a policy would be contrary to the functions of Congress, to make the laws, and of the courts, to pass on the laws after they are made.

Kenny said that the government over a long period of years has recognized the ownership of the states The Supreme Court, Congress, the Interior Department and other agencies have given many such decisions, he declared.

Acting on the assumption that their title has been proven valid, the states, over the years, have made grants and sales of reclaimed lands to private interests who have invested large sums of money in their improvement, all of which are imperiled by the government's suit, Kenny said.

Kenny also touched upon the situation arising out of Ickes' "reversal of policy" regarding ownership of the California off-shore petroleum deposits.

"It is open to question whether the majority of the pending applications were really filed in good faith," he said. "We know that a number of them have been filed for the purpose of blackmailing legitimate owners by trying to force them to buy up the applications so that the owner could clear his title. Numerous instances exist also in which fractional interest in these applications have been sold to innocent parties.

"These practices are the direct result of Mr. Ickes' failure to deny these applications."

Denies Conservation Angle

Kenny challenged Ickes' contention that conservation has a part in the government's efforts to seize the lands.

"The present California state leasing law is far more stringent and protects the public far better in the conservation of oil than the present federal leasing act," he argued. "The issue of conservation is a blind thrown into try to frighten Congress into performing an act of confiscation by which the jurisdiction of the Department of the Interior would be extended over billions of dollars worth of property which have always belonged to the states and their citizens."

He warned the committee that the "endless cloud" on titles resulting from the suit will block public financing and retard and perhaps entirely prevent public and private developments "on every harbor and every coast line in the United States," and that many years of litigation is in prospect if the Supreme Court held against the states.

Kenny cited as examples to prove his point a boundary case between New Mexico and Colorado filed in 1919 and still pending, and a water diversion case between Wisconsin and Illinois field in 1922 and not yet finally settled.

Kenny argued against the contention that Congress withhold action pending settlement of the suit.

"No legal or political theory requires that Congress must cease to pass laws on matters pending in the courts," he said. "The fact is that Congress is continually passing laws which change or impair or completely destroy the jurisdiction of the court over pending cases. This has never been considered a breach of monity or a trespass on the court's function.

"The present resolution is peculiarly a matter of legislative policy. This is a dispute between states and federal government. It presents a fundamental question of national policy. We cannot believe that Congress will abdicate its powers and leave that great question to be the subject of strife and confusion between states and Federal Government for many years to come."

"Divide and Conquer"

Kenny attacked Ickes' suggested amendment to the resolution as "not only discriminatory but arbitrary and capricious," and declared it was "the familiar technique of divide and conquer" by splitting the interests of the inland states away from those of the coastal states.

The California official charged that Ickes had no right to waive any federal rights, as he has done in relinquishing claim to inland-state submerged lands, and the proposal showed that "he was perfectly willing to throw overboard any claim that the federal government might have in respect to them in order to gain the tidelands."

Uncertainty over titles has resulted in a let-down in interest in leases on federal public lands, the committee was told by Bascom Giles, Texas Land Office Commissioner, and "continuation of the present condition is certain to lower the values of this land and subsequently to deter the rate of development, resulting in a decided loss in revenue for the state as well as depreciation of private investments."

Giles testified that since August, 1913, more than 1800 leases have been issued covering tidewater and submerged lands, from which the state and its permanent school land fund have received bonuses of approximately $4,557,500, while from other public lands the school fund has received $19,500,000 and from river beds more than $200,000.

Texas Asserts Rights

"It is difficult for the people of Texas to understand why the federal government should be the first to strike a blow against their title to these properties when Texas has every right to believe that the federal government should protect and secure the property rights of the state," he said.

"It is clearly the duty of Congress to put a stop to the assertion of title to the properties on behalf of he United States of America, to remove the cloud that has been cast on the title to these properties by action that has already been taken and quiet once and for all such title in the several states and their grantees and successors in interest."

The sudden expression of claim by the government, it was charged flatly by Texas Attorney General Grover Sellers, "had its inception in the hopeful speculation of certain persons who, with a

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what-is-there-to-lose attitude, applied to the federal government for leasing rights."

Texas, Sellers explained, came into the union by treaty between two sovereign nations with a definite acknowledgement by the United States that the territory annexed extended to a point along Texas' coast three leagues out.

"The interest of the executive departments of the government in the matter would seem to be this: that the Navy wants to 'appropriate' for defense purposes the oil within the land underlying the marginal sea without compensation; the Interior Department is interested because of recurring claims presented by prospective lessees, and the Justice Department, as attorney for the other departments is prosecuting their claims," Sellers explained.

"To this we answer that the Navy was not without adequate oil during the war emergency and that its failure to effect the desired 'appropriation' will not cause it to want for oil in the future; that the Interior Department should cease speculating about novel theories of federal ownership at the instance of prospective lessees and should return to its long-standing administrative interpretation of the law."

An annual revenue of more than $15 million is at stake in Louisiana, it was disclosed by state Attorney General Fred S. LeBlanc, of which approximately one third comes from oil and gas activities on 1,871,000 acres of state-owned lands.

Matter of Policy

Manley D. Hudson, formerly judge of the International Court, as an expert witness, testified that the states came into the union under agreement for the retention of their lands, and Kenny interjected that in the case of Alaska, Congress has specified that when admitted to statehood it shall retain its submerged lands.

Hudson told Wiley Congress can pass on matters of policy at any time.

E. J. Preston, Livingston, Mont., independent operator, tangled with the committee when he said the California delegation was using oil company money to put the measure through, and withdrew his statement when McCarran said he had gone too far.

Preston declared the legislation is a deliberate attempt to mislead the committee, that oil is the main issue, and that "the tidelands battle is one of grand larceny" for 4 billion barrels of oil.

Carbon Black Plant Asked

Plans to sell casinghead gas from the Odem Field for carbon black production were outlined at a Texas Railroad Commission hearing last week. Seaboard Oil Company is flaring 5,691,000 cubic feet of casinghead gas and it was proposed to burn this in a carbon black plant. A separator system would remove all liquid hydro-carbons, leaving only an insignificant quantity of liquids which would be burned for black. The company claimed it is neither necessary nor economical to use the gas for Odem repressuring.

Charles H. Schnelson, district superintendent for Seaboard, testified that Tennessee Gas & Transmission Company which has a line through the field had declined to purchase the gas.

Synthetic Rubber Plants Given Two Years or More

The domestic synthetic rubber industry was seen last week as having a lease on life of two years or more, the period estimated by W. James Sears, director of the rubber division of the Civilian Production Administration, as required before American industry can return to unlimited use of the natural product.

However, Sears told the CPA rubber advisory committee, if receipts of natural rubber during the next six months bear out present estimates, it will be possible to more than double the current ratio of natural to general-purpose synthetic, and the present ratio of 10 percent is seen as high as 25 percent before late summer.

The nation's natural rubber stock pile stood at 125,000 tons, and present reconversion planning is based on receipt this year of some 300,000 tons from all sources. If those receipts do not materialize, however, the rate of conversion may have to be slowed down.

Lectures Scheduled

The 11th series of lectures on the Law of Oil and Gas, sponsored by the South Texas School of Commerce and the South Texas School of Law, of the Young Men's Christian Association, Houston, will be given February 14-May 30. The lectures will be given at the Y.M.C.A. Building, 1600 Louisiana Street, on Thursdays from 7:30 to 9:30 p.m. The lectures will be given by authorities on oil and gas law. Tuition is $12.50 cash, or $15.00 terms.

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Truman Backs Pauley Even Though Some Feel That Defeat Is Likely

As last week ended, Edwin W. Pauley, California oil man nominated for Undersecretary of the Navy, found that his chief, President Truman, stood squarely behind him and would not withdraw the nomination.

This action came after the Senate Naval Affairs Committee had heard various witnesses, most of them—including Secretary Ickes—bitterly opposed to the Californian. Democrats on the committee were divided over whether the nomination should be fought through to a vote which many of them thought would be against confirmation. They placed their expectation of defeat on the testimony given by Ickes, which Pauley said arose from the secretary's "misunderstanding" of what he said.

The decision to recess the investigation until Tuesday was reached after a conference between Committee Chairman David I. Walsh of Massachusetts and the nominee. Senator Charles W. Tobey, who led the attack on Pauley, said he had several more witnesses.

President Truman's vigorous stand came at a press conference when he expressed the conviction that his nominee is an honest man and suggested that in the charges he made Ickes could be mistaken as well as anyone else.

He said Ickes had not consulted him in advance concerning his testimony criticizing Pauley, but added he did not believe this would change his relations with his Interior Secretary. He does not intend to call on Ickes to discuss his attitude on the nomination, the President said.

Earlier Pauley had told the committee that, if confirmed he would "automatically" change his position with respect to ownership of the submerged lands, would do "all in my power" to acquire oil reserves for the Navy and would throw his support to the government's suit, all his actions being determined by the "naval point of view."

Tells of Ickes Talk

Pauley took the witness stand to deny that he had ever sought to have Secretary of the Interior Ickes take steps to halt the government's tideland suit or ever had "sought to exert pressure on anyone concerning tideland law suits or legislation."

Pauley read a prepared statement explaining that some matters have "apparently become confused" and restating his position that he is convinced that ownership in the tidelands rests with the states.

Ickes' statement, he said, was due to "misunderstanding," and he explained that he did ask the secretary's assistance in helping to raise campaign funds, as he asked that of other cabinet officers.

"I again say that I expressed my views as to the state ownership of tidelands to Secretary Ickes, and probably to other Cabinet members," he told the committee. "But I never solicited, never received and would never take a contingent political contribution of any kind or character. I regret Secretary Ickes should have misunderstood the purport of my remarks. I assume this misunderstanding must have arisen because I did express to him the view that regardless of how he felt as to who owned the tidelands, it would be a mistake to raise the tideland issue by his granting federal permits to drill for oil in these lands to private interests, many of which interests were engaged in selling shares in these permit applications to credulous investors."

Explains "Hot Oil"

Pauley also referred to "confusion" in the record as to what is meant by "hot oil," explaining that all he meant in use of the term was production not in conformity with NIRA regulations, and declared that while "most producers disregarded these unconstitutional regulations—I have never produced any oil in excess of valid regulations."

Pauley concluded his prepared statement with comment on Senator Charles W. Tobey's question as to whether his company sold oil to Japan, which he had answered in the affirmative, adding "that virtually every oil company on the Pacific Coast sold oil to Japan for many years before the war."

"Not only oil but hundreds of other commodities were sold to Japan by citizens of this country," he added. "However, neither I nor any of the companies with which I am associated have ever sold any oil to Japan in violation of or in disregard of the policies of this government."

Pauley branded as a "dirty, deliberate,

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premeditated lie" a charge by Max Thornburg, former State Department oil expert, that while Democratic national treasurer in 1941 he sought to have a tanker owned by the Mallory estate transferred from United States to Mexican registry and had offered to give $6000 to the Democratic fund if the deal went through.

Thornburg was testifying that the transfer would have been approved except for his own opposition, which was, he explained, based on the desperate need for tankers at the time.

Pauley said his only interest in seeking the transfer was to facilitate the movement of Mexican oil, pointing out that American tankers were being sunk with great loss of life and "I thought they might as well be Mexican lives as American lives."

Asked why he though Thornburg, who previously had testified that Pauley threatened him with "liquidation" if he continued his opposition to a project to develop Mexican oil, opposed the transfer, Pauley shot back:

"Mr. Thornburg never at any time wanted anybody to fool with Mexico except himself, his company and the companies affiliated with it—Standard Oil and Shell Oil Company. His object was to force the Mexican government to return the expropriated properties of those companies.

"That in spite of the fact that millions of cubic feet of gas were being blown into the air in Mexico which might have been used in the war effort."

Pauley charged that the State Department "eventually went into Mexico, spent some $15 million and produced no high-octane gas," while a syndicate of which he was a member and which endeavored to make a contract with the Mexican government to build a high-octane gasoline plant in that country, had plans to get into production in less than a year by using reconverted equipment. The project was opposed by Thornburg and was never approved by the State Department.

Questioned by Tobey regarding the assistance of oil men to Pauley as reparations commissioner, the Californian gave the committee a list of company men who accompanied him on his reparations missions to Tokyo and Moscow. He also submitted figures to show that in 1944 oil men made campaign contributions of $53,000, or 4.4 percent of total collections to the Democrats and $105,240, or 6.4 percent of total collections to the Republicans.

Introduction of letters and telegrams to Tobey carrying charges against Pauley were questioned by the nominee's supporters who wanted them ignored unless the senders were willing

Reed Roller Bit Cancels Contract With CIO Union

In a surprise move that apparently left union officials without any immediate statement, Reed Roller Bit Company, second largest of the plants involved in the steel strike in Houston, cancelled its contract with the CIO February 7, and asked all its employes to report for work Monday, February 11.

S. P. Farish, president of the company, said a no-strike clause in the collective bargaining agreement between the Reed organization and the union, August 30, 1945, was the basis for cancellation. This provision, set forth in Farish's letter states: "The union agrees that there shall be no strike or slow down of production authorized by the union during the term hereof and the company agrees that there shall be no lockout of employes during the term hereof. Breach by either party of this provision shall give the other party the right to terminate this agreement after three days' written notice."

Late Friday, no word had been received from union headquarters in Pittsburgh, or from the local director, concerning the cancellation.

There was a gradual increase in the number of workmen returning to the Hughes Tool Company, and at the end of the week, the figure was slightly above 3000, and the plant was operating with limited output.

Effects of Steel Strike

Every day the steel strike continues, the threat to the oil tool industry increases proportionately. Production of such critical items as rock bits is already greatly curtailed, and the inability to get steel is beginning to be felt in many branches of oil field equipment manufacturing. It is believed, in the Houston area, that continuance of the strike will close every plant there within from two to three months.

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to come to Washington to testify. Contrary to the usual practice, all of the witnesses appearing before the committee have been sworn, and it was asserted that telegraphic and written allegations should be supported by sworn testimony if they are to be considered.

The oil men named by Pauley as accompanying him abroad included J. Howard Mashall, president of Ashland Oil and Refining Company, as chief counsel to Moscow; J. R. Parten, president of Woodley Petroleum Company, as chief of staff to Moscow; H. D. Maxwell, president of Maxwell Petroleum Company, as chief of staff to Japan; John Herndell, geologist, to Japan; Colonel E. E. Folson, Dallas oil man on loan from the Army and formerly on General Eisenhower's staff, and William G. Johnson, Tulsa rancher and oil man.

Roosevelt Influence

Examined regarding Pauley's alleged efforts to halt the filing of the tidelands suit, Ickes intimated that the oil man had influenced President Roosevelt to hold off for a considerable time.

Ickes read from memoranda he had made of conversations he had had with Pauley from 1942 to 1945, in which he described as "the rawest proposition that was ever made to me," a suggestion he said Pauley made in September, 1944, that halting the suit would result in substantial contributions from California oil men.

"Then," said Tobey after Ickes had described the conversation, "he did try to stop the tideland suit."

"Oh, there's no doubt about that," the secretary said. "He was trying to prevent the filing of this suit and he was trying to get President Roosevelt to stop the filing."

Asked by Senator Robertson of Wyoming, whether President Roosevelt did stop it, Ickes hesitated and finally said, "Well, it was not filed for a long time."

Ickes said that he usually contributed $1000 to the party's campaign, but in 1942 cut it down to $500, although, he said, any contribution "would hurt" because he was "not a rich man," and contributed only because he learned that Pauley was meeting Democratic Committee payrolls out of his own pocket.

During Ickes' appearance, Tobey, who had been secretive about the witnesses he would call, said he wanted to question Harry Sinclair regarding "campaign fund contributions by oil interests and matters before this committee."

In his memorandum of the September, 1944, meeting, Ickes showed that he had called in former Undersecretary Abe Fortas when Pauley asked to stay after another meeting.

Pauley said the President had told him to talk with Ickes, the memorandum stated, and he said he could raise $300,000 from California oil men if "they could be assured that the federal government would not try to assert title to these oil lands.

Spurned "Offer"

"I told him that I could not give him any such assurance, pointing to the fact that the whole issue would have been settled a long time ago if I had not been blocked. I explained to him that if these titles were in the state of California no harm would be done by us having the court pass upon the question. On the other hand, if title actually were in the United States, as some lawyers believed that it was, it would make a pretty scandal involving not only me, but the President and himself, if I should agree not to try to assert title. * * *

"This is the rawest proposition that has ever been made to me. I don't intend to smear my record on oil at this stage of the game.

"No oil man ought to be treasurer and here was Pauley frankly avowing that he was collecting from the oil interests in consideration of which he wanted me to give them the assurance that I have referred to."

Ickes memorandum recited that an incident on President Roosevelt's funeral train when, he said Pauley "had the hardihood to turn to me and ask what I proposed to do about offshore oil.

"I told him that the matter was up to the Department of Justice. I regarded it as a legal question that ought to be settled by the courts once and for all and that, in my opinion, no administrative officer would be doing his duty if he decided that the government had no right, title or interest when it might have.

"He referred again to the fact that it had been the policy of Interior to regard these interests as belonging to the state of California. I could not see that the lessees would suffer from a court finding that title belonged the the United States. Federal royalties are less than California royalties and I could not imagine the possibility of the lessees having to pay royalties a second time. Any claim that the Federal Government might have for back royalties should be against the state or subdivisions thereof. But the fact that Pauley brought this up at this time more than ever confirmed my bad opinion of him."

Asked by Tobey whether he preferred to answer Ickes then or later, Pauley said he would defer any statement, but a few minutes later rose, stood behind Ickes, and repeated his former assertion that "Mr. Ickes is mistaken. He has simply made the wrong interpretation of what I said to him."

"Then maybe I don't understand the English language," Ickes retorted.

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FPC Members Show More Interest as Houston Natural Gas Hearing Closes

By WELDON B. HILL, Staff Writer

The question of the Federal Power Commission considering end-use of natural gas in determining rates in advance of pipe line construction arose last week at the Commission's gas hearing in Houston as witnesses paraded testimony regarding ratable take, price, conservation and regulation of gas in Texas.

The Houston hearing, fourth in a series to be conducted by FPC in its investigation of the natural gas industry, was concluded Thursday. The next such hearing will open this week at the Buena Vista Hotel in Biloxi, Miss.

The suggestion that FPC should consider end-use before approving rates was placed into the record for the first time during the series of hearings as N. C. McGowen, president, United Gas Pipe Line Company, was cross-examined by Burton Behling, chief of the FPC investigating staff.

McGowen declared that it would be difficult for FPC to determine such rates before the construction of a pipe line as rates are based on the cost of the project and that too many factors entered into the cost picture before construction was finished.

He further declared that FPC has no jurisdiction over end-use and should not be given that authority.

This declaration continued to be the theme of the Texas committee's testimony during the final days of the hearing.

Behling asked what McGowen thought FPC should consider in granting certificates for pipe line construction, McGowen replying that it was proper for FPC to require information as to the applicant's financial status, experience in the operation of a pipe line, reasonable information as to the source of supply, and assurance of a market at the end of the line.

McGowen further told Behling that FPC, now that the war is over, should act in accordance with the provisions of the amendments made to the Natural Gas Act in 1942 and determine service areas for the interstate pipe line companies. With such determination, pipe line companies would be allowed to enlarge or extend facilities without further authorization.

The question of ratable take of gas from fields continued to come in for much discussion with all concerned agreeing that ratable taking of gas was desirous.

However, again the method of setting up and administering a ratable take formula was in conflict.

Pipe line companies indicated they favored determining their own method of taking gas ratably from fields. Attorneys for the coal and railroad interests, following their philosophy of government control, in questioning the witnesses indicated that ratable take should be determined by either the state or federal government. On the other hand, producers and royalty owners favored either the pipe line companies or the state but not the federal government.

As a result of the hearing, it is possible that ratable take of gas will be instituted soon. McGowen said his company subscribed to the theory of ratable take in fields wherever economically possible. By that he meant he would not be in favor of the broad theory of ratable take in the instance where there were only a few fields in a state and these fields being widely separated.

The argument that ratable purchase of gas interferes with dedicated reserves is a fallacy, R. C. Kay, president, Panhandle Producers and Royalty Owners Association, told the commission.

"It not only does not interfere but it protects and adds to reserves of all kinds in that it tends to prevent underground waste," Kay said. "It is an ac-

Mexico Agrees to Plan On Expropriations Pay

Agreements have been signed in Mexico City by the Mexican, Dutch and British governments, providing a means for determining compensation to Dutch and British subjects for oil properties expropriated by Mexico in 1938, according to London reports.

The report, quoting the British foreign office, said the British-Mexican agreement provides for the appointment of experts to assess the value of "certain petroleum industrial properties" in order to determine payments to British subjects for expropriations subsequent to March 17, 1938. A similar agreement was made with the Dutch.

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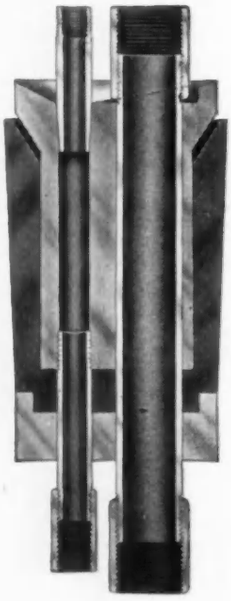

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cepted fact that one gas well will drain a many times larger area than an oil well in the same relative time.

Advantages Cited

"Ratable purchase will therefore eliminate drainage, add to connected reserves, eliminate the necessity of other operators finding markets, generally less advantageous, to protect their leases and leads to a stabilized market at a stabilized price."

On cross examination by Philip Porter, counsel for the Solid Fuels Institute, Kay admitted that in the west field of the Texas Panhandle, the owner of producing properties not being produced must either sell his lease to a pipe line company or be unable to sell his gas, in many instances.

Kay maintained that the price for gas used for carbon black is still inadequate and contended that the OPA ceiling price was kept far too low until recently when a slight increase was given. In his opinion, there will be no more low-price gas available for carbon black manufacture, when present contracts expire.

He emphatically denied, on examination by attorneys for coal and railroad interests, that there was a waste of gas in the Panhandle field.

R. C. Alden, director of research, Phillips Petroleum Company, told how American industry is preparing to utilize the synthetic oil producing methods developed by Germany. Large scale operations are being planned to utilize these methods, he said.

"As much gasoline can thus be produced from America's natural gas reserves as from its known oil reserves, in effect doubling the nation's potential gasoline supply," Alden declared.

"On the basis of conservative estimates, the synthesis process utilizing natural gas will not be able to compete with present refinery methods utilizing crude oil until the price of oil reaches about $1.75 to $2 per barrel," he said. "On the basis of more optimistic estimates, the process is competitive now at about 10 percent depreciation on capital investments."

Opposes Utility Status

Opposition to any policy which is designed to give a utility status to the operation of natural gasoline plants was expressed by M. L. Mayfield, Houston engineer.

Administration of the Natural Gas Act, Mayfield said, should be clearly and rigorously limited solely to the interstate phase of operations, and there should be no tendency to augment or extend jurisdiction, directly or indirectly, over auxiliary operations.

"In connection with pipe line usage of casinghead residue," Mayfield said, "it is becoming increasingly apparent that certain inferences and an apprehension toward administration of the broad provisions of the present Natural Gas Act are acting as partial deterrents to the role of private enterprise. This is particularly significant where residue gas sales to interstate transmission lines are being considered."

Beauford Jester, member of the Texas Railroad Commission, on cross-examination, answered questions by Don Culton, counsel for the Natural Gas Industry Committee, and said that as a result of the atomic bomb it is indicated that we may not have large concentrations of industry in the future and that Texas, having plenty of room, wants to attract industry.

For that reason, he said, he sounded a precautionary note against exporting too much Texas gas. Jester said he realized that there must be adequate markets for gas in order to develop a higher well-head price but that he felt Texas should save part of its gas for Texas.

Hulcy on Stand

Attorneys for the coal and railroad interests attempted to bring from D. A. Hulcy, president, Lone Star Gas Company, that there is a necessity for legislation compelling the intra-state pipe lines in Texas to obtain certificates of convenience and necessity for construction of new lines or extensions.

Hulcy saw no necessity for such legislation and further stated that the restriction of markets probably would result in lack of cooperation to prevent waste. "There is no great danger of natural gas reserves becoming exhausted in the foreseable future," he declared.

Stewart E. Buckley, head of production research, Humble Oil & Refining Company, told the commission that casinghead gas is strictly a by-product of crude oil, and that any attempt to regulate its production separately from the production of crude oil would result in confusion.

Texas witnesses contended that if FPC was given authority to regulate the flow of casinghead gas it would thereby have authority to control the flow of oil from any given well.

"Unlike natural gas from gas wells," Buckley said, "it cannot be retained in the ground or produced at will in response to demand but is produced wherever oil is produced. The conservation of casinghead gas is so interwoven with the conservation of oil that only confusion could result from any attempt to divorce them."

Engineering studies of oil field operations have shown that the primary use for casinghead gas is in effecting oil recovery from underground reservoirs and that production of this gas is not a wasteful process but is a necessary part of oil production, he pointed out.

"While casinghead gas does have other uses, no demand other than that of efficient oil production can be used as a criterion for casinghead gas conservation," Buckley said.

Progress in casinghead gas conservation in Texas has had its root in two main factors, he pointed out. They are sound conservation statutes enacted by the state legislature and administered by a state commission, and the presence of an economic incentive for conservation.

In answer to Commissioner Nelson Lee Smith's question concerning what the Humble company was doing toward instituting a program to conserve flared gas, Buckley outlined the recycling construction program in several Texas coast pools.

Fear that the sale of residue gas at the gate of cycling plants may subject the plants to federal regulation was expressed by Robert T. Wilson, president, LaGloria Corporation.

Postpones Finding Market

"We are in the hazardous business of exploration and production of gas and the manufacture of liquid products therefrom," Wilson said. "Ground rules suitable for the transmission and retail

distribution of gas do not properly apply to us."

Wilson pointed out that the cycling process did not solve the problem of finding a market for the gas from gas-distillate fields but merely postponed it.

E. M. Eckhart, vice president, and Ira Williams, director of research, J. M. Huber Corporation, presented a joint paper in which they described the manufacture of carbon black as a conservation measure.

Williams said that under present conditions, because of the difficulty carbon black manufacturers have in getting gas he doubts whether new carbon black plants will be built. He expressed a belief that the carbon black industry should be permitted to compete with anyone else for gas, explaining that they had to take sour gas and residue gas, none of the latter being presently available.

The efficiency of carbon black manufacturers is higher than many of the other uses to which gas is equipped, he said.

Adequate Price Needed

Terming gas conservation as a matter of economics as well as engineering, Dr. Richard J. Gonzalez, Humble Oil & Refining Company, told FPC that adequate gas prices are required to provide an incentive for producers to save and market gas produced with oil and to explore for and develop gas reserves.

He said that present prices are too low at the well, particularly in Texas, Louisiana, and Oklahoma, which have about two thirds of the known gas reserves in the United States. Keeping in line with other Texas witnesses, Gonzalez contended that no restrictions should be imposed on the purposes for which gas is used.

To prove that all Texans were not in accord with the testimony presented by the Governor's Gas Policy Committee, C. W. Carroll, chairman of the natural resources committee of the San Antonio Manufacturers Association, made a plea for keeping Texas gas in Texas, asserting that his group stands 100 percent in favor of controlling the sale distribution and disposition of natural gas, based upon the relative value and need of end products.

Carroll, owner of a book-binding business, sharply criticized the manner in which Governor Coke Stevenson "picked" his committee to present testimony at the hearing.

Attorneys for coal and railroad interests had questioned the Governor's committee as being representative of the people of the state in cross-examining Olin Culberson, chairman of the Texas Railroad Commission, and Governor Stevenson earlier in the hearing.

There was sharp exchange between Carroll and Charles I. Francis, attorney for the Governor's committee.

Carroll said he was "shocked" to find that Dr. E. P. Schoch, scientist at the University of Texas, had not been included among the witnesses. Commissioner Smith told Carroll that the hearing "is open to all."

In answer to questions by Francis, Carroll said he is displeased both with the actions on natural gas matters by the Texas Railroad Commission and by FPC, and that he does not want the federal government to control the exportation of gas from Texas nor did he like government interference in state affairs.

Finally, he admitted that if it were proved that the gas reserves are sufficient to last for the foreseeable future and that the amount of natural gas used for chemical purposes is less than 3 percent, he would have no objections whatever to exporting Texas gas to meet any market demands.

Clinton Owsley, supervisor of public utilities for the City of Houston, asked the commission that in passing on applications for certificates of convenience and necessity to export gas from Texas, it carefully considers both ends of the pipe line.

"Please do not enhance the economic position of other parts of the nation at the expense of the Texas Coast country," Owsley said.

Of the three FPC members present at the outset of the hearing only Smith remained throughout. Richard Sachse was first to leave, followed by Harrington Wimberly. Marvin Farrington was the trial examiner.

Attorneys who have attended the first four of the gas hearings say commission members showed more interest in the testimony presented at Houston than they apparently did at Kansas City, Oklahoma City and New Orleans. The opinion of these attorneys was based on the numerous times the commissioners interrupted both direct testimony and cross examination to clear points of policy concerning FPC. The commissioners also appeared to be interested in gaining the witnesses' view point on problems confronting FPC.

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West Texas Areas Given Direct Pipe Line Outlets

Two important isolated producing areas in West Texas have been given direct pipe line outlets. Shell Pipe Line Corporation has completed a 22.6-mile 8-inch extension from its Wheeler field station, Winkler County, to the Bedford field's dually-completed sweet crude discovery in Andrews County. The Bedford area is rated as a major crude reserve but will not attain importance as an oil supply for several years due to slow development and producing depths. However, this extension line will enable Shell to absorb its controlled production in other Andrews County fields when its trunk line outlets from the district are enlarged.

The Texas New Mexico Pipe Line Company has placed in service a 34-mile 6-inch extension from its Abell field station to the Fort Stockton 21-well field, Pecos County. This area was opened in August, 1944 and has been dependent upon tank trucks for an outlet. The 2900-foot Yates pay produces sweet and sour crude, dependent upon structural position of the wells.

Few Ships Delivered

Ship deliveries by United States yards last month were at a low level, only nine merchant ships being released, it was reported last week by the Maritime Commission.

Only one tanker was delivered—a T3 tanker delivered to the Navy by the Bethlehem-Sparrows Point Shipyard.

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CASH		**$ 33,402,158.15**
U. S. Government Obligations (all carried at par or less)		86,816,906.98
Investment Bonds and Municipal Obligations (all carried at par or less)		2,503,865.00
Stock in Federal Reserve Bank		105,000.00
Loans and Discounts		8,190,627.53
Interest Earned but not Collected		267,665.52
Customers' Liability Account Letters of Credit		186,345.45
Building Account		856,935.05
Other Real Estate Owned		1.00
TOTAL		**$132,329,504.68**

LIABILITIES

Capital Stock		$ 1,200,000.00
Surplus		2,300,000.00
Undivided Profits—Net		327,671.86
Reserve for Undeclared Dividends		96,000.00
Reserve for Taxes, Interest, etc.		306,385.15
Interest and Discount Collected but not Earned		17,277.60
Liability Account Letters of Credit		186,345.45
DEPOSITS: Commercial	$70,716,421.81	
Correspondent Banks	18,162,029.79	
Time	18,920,196.86	
Public Funds	9,394,563.70	
United States Government Deposits	8,599,221.98	
Other Deposits, Certified & Cashiers' Checks, etc.	2,103,390.48	127,895,824.62
TOTAL		**$132,329,504.68**

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Malco's Artesia Refinery Is Bought by Continental

Continental Oil Company has purchased Malco Refineries, Inc.'s 4000-barrel daily capacity crude skimming and cracking plant at Artesia, New Mexico, for consideration reported to be near $500,000. Robert O. Anderson, owner of Valley Refining Company refinery at Roswell, New Mexico, and Sam L. Lubell, Tulsa, were the principal owners of Malco Refineries, Inc., which modernized and expanded its Artesia plant during the war then was unable to maintain normal runs when wartime contracts were terminated.

Producing properties held by Malco were not involved in the sale. Continental has a small cracking and skimming plant at Artesia that will continue operations for the present.

El Paso Natural to Buy Gas in Winkler County

El Paso Natural Gas Company, owner of a natural gas system that serves northeastern (Old) Mexico and Arizona and intermediate points has contracted to purchase residue gas from C. V. Lyman's natural gasoline and repressuring plant in the Emperor deep field, Winkler County sector of West Texas. The company will build a 12.6-mile combination 5- and 6-inch line from the plant to connect with its 10-inch carrier that serves the Keystone field, Winkler County. This West Texas gas will enter El Paso main system near Jal, New Mexico.

No Offers Made Yet for Big Inch Lines Purchase

Little progress has been made so far by the RFC in disposing of the two big inch pipe line systems, currently held in stand-by condition.

Maintenance of the lines has been placed by the RFC in the hands of William Brothers, Tulsa, under a contract by which they will take care of protection and supervision of maintenance. The cost of maintenance, estimated at $500,000 a year, will be borne by the RFC, and the contractors will receive a flat fee of $20,000 a year for their work.

There appears to be no pressure, as yet, behind the proposals of three groups to acquire the lines for natural gas movement in the New York-Philadelphia area which were disclosed at hearings before the O'Mahoney Committee last year, and so far as could be learned no concrete offers have been made for either line for oil use.

Louisiana Again Changes Hearing on Natural Gas

The Louisiana Conservation Commission again has changed the date of a public hearing in New Orleans on the feasibility of pro-rating natural gas in the state, this time to March 7. The previously announced date of March 12 was found to conflict with a convention at the Monteleon Hotel, where the hearing was to be held. The hearing had been postponed twice before, because of conflicts with FPC gas hearings.

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages in barrels.)

State or District	PRODUCTION IN WEEK ENDED February 9	February 2
Alabama	650	700
Arkansas	77,250	77,500
California	841,600	836,500
Colorado	22,400	22,000
Florida	100	100
Illinois	212,600	207,800
Indiana	14,800	14,250
Kansas	236,700	239,600
Kentucky	29,500	29,600
Louisiana	368,250	367,300
North Louisiana	79,600	78,700
South Louisiana	2288,650	288,600
Michigan	45,500	45,500
Mississippi	55,200	56,750
Missouri	100	100
Montana	19,400	19,800
Nebraska	750	750
New Mexico	98,500	99,300
New York	14,050	14,000
Ohio	6,850	7,100
Oklahoma	389,100	387,400
Pennsylvania	35,150	34,150
Tennessee	35	35
Texas	2,110,400	2,036,750
Upper Gulf Coast	544,100	511,650
East Texas Field	321,750	320,150
Rest of Eastern Texas	146,000	142,400
Southwest Texas	356,200	338,150
West Texas	503,500	490,700
North Texas	157,750	152,700
Panhandle	81,100	81,000
West Virginia	7,200	8,200
Wyoming	98,750	97,500
Total United States	4,684,885	4,602,685

English Oil Import Story Questioned by Washington

Reports of "huge" shipments of petroleum products, particularly fuel oil, to England received little corroboration in Washington last week.

Washington's information was admittedly informal and meager, but there was nothing to indicate that England was taking tremendous volumes of fuel oil and much to deny it.

It was pointed out that the War Shipping Administration recently has cut the number of tankers in the trade, leaving England so short of bottoms that she has offered us 750,000 tons of heavy oil at Curacao; further that England is pressed for dollar exchange and is not likely to buy on a dollar market if she can get supplies for sterling.

Reports indicate that England has been taking large—but not quite normal—amounts of gas oil and kerosine from this market, but there appeared no support for heavy takings of fuel oils. There was some suggestion that a credit or trade deal may have been worked out, but no definite information along that line was available.

Call for Help

Louisiana State University, Department of Petroleum Engineering, is desperately in need of eight copies of Doherty and Zaba's "Practical Petroleum Engineers Handbook," and the supply of the second edition, which is needed, is completely exhausted. Anyone having a copy of this book which can be spared will be doing a real favor to the petroleum engineering students of LSU by advising B. C. Craft, care LSU, Baton Rouge, La., about the available copy and price.

IPAA Officials Continue Fight for Price Increase

Members of executive committee and state vice presidents of the Independent Petroleum Association of America met in Washington February 8 to plan future activities to obtain an increase in crude ceilings.

Officials of the asociation pointed out that the recent action of Stabilization Director John C. Collet in considering proposals to abandon the stripper-well subsidy demonstrated the precariousness of the situation and the need for further efforts to get a protective price for oil as a guard against the shutting in of thousands of small wells when the subsidy is lifted.

Under Collet's decision, the subsidy is to be continued until June 30 next, the present date for expiration of the price control act, and if that law is continued it is expected the subsidy will be extended, the Stabilization Director having pointed out that dire results would attend its discontinuing so long as old-price ceilings are maintained.

AIME Section Meet

"As I See the Veteran" is the topic of a panel discussion slated Tuesday February 12 when the Gulf Coast Section AIME meets at the Texas State Hotel, Houston.

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Production and Refinery Runs Reduced; Gasoline Stocks Rise; Fuel Withdrawn

Both production and refinery runs of crude oil in the United States were reduced moderately in the week ended February 2, but output of principal products was satisfactorily in line with market requirements. Stocks of distillate fuel oil and residual fuel oil were drawn upon in the aggregate amount of approximately 1,200,000 barrels, in the current heavy seasonal demands, while stocks of gasoline were increased in nearly the same amount, indicating no material change in over-all stocks of products.

U. S. production of crude averaged 4,609,000 barrels daily in the week of February 2, these API statistics showed. That was 17,000 a day less than in the previous week and 114,000 a day or 2.4 percent less than the 4,723,000 barrels daily produced in the comparable week a year ago.

Crude runs to stills averaged 4,530,000 barrels daily, down 23,000 from the previous week and less than crude production. This rate of runs was 165,000 daily or 3.5 percent less than the 4,695,000 daily reported in the corresponding week a year ago.

Stocks of refinable crude were reported by the Bureau of Mines at 220,544,000 barrels as of January 26. They were then less than a million barrels under the 221,310,000 barrels reported January 27 last year.

Production of gasoline during the week ended February 2 amounted to 13,841,000 barrels, including natural blended at refineries, API reported. That was 219,000 barrels more than output in the previous week, but 833,000 barrels or 5.7 percent les than in the comparable week a year ago. Stocks of finished and unfinished gasoline were increased by 1,098,000 barrels during the week, rising to 102,835,000 barrels. This was a new high for this year and was well along toward the all-time peak of 109,281,000 barrels reached at the middle of March, 1942. The 102,835,000 barrels of current stocks are 10,694,000 barrels or 11.6 percent more than the 92,141,000 barrels held February 3 last year.

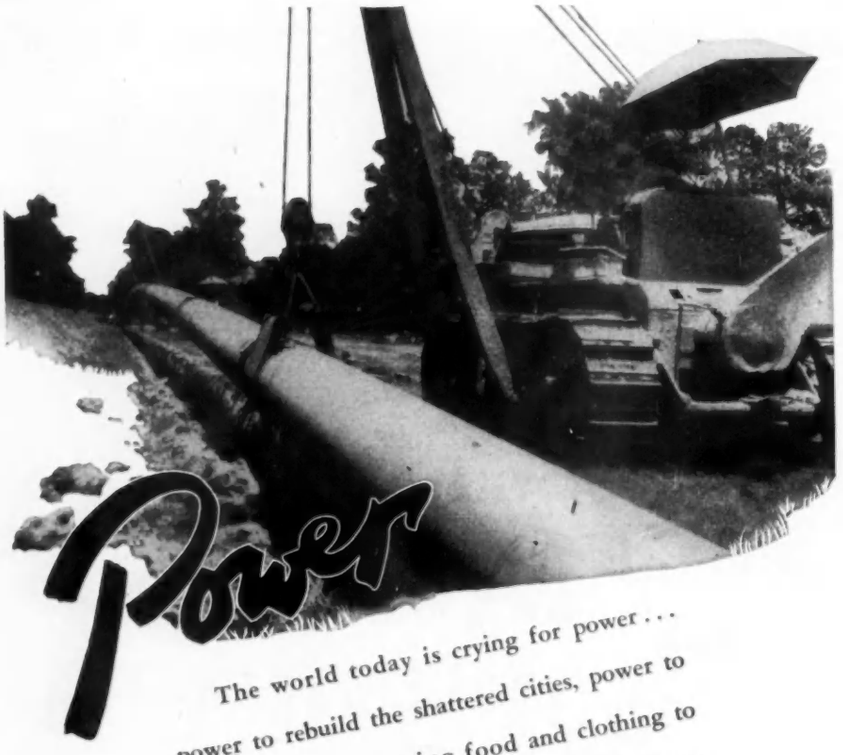
Distillate fuel oil production of 5,636,000 barrels during the week ended February 2 was 84,000 barrels less than in the previous week but 941,000 barrels or 20 percent more than the 4,695,000 barrels produced in the like week a year ago. Stocks of distillate were lowered during the week by 559,000 barrels and then totaled 28,939,000 barrels. That amount was 2,362,000 barrels or 7.5 percent less than the 31,301,000 barrels held February 3 a year ago.

Residual fuel oil production of 8,506,000 barrels in the week ended February 2 was 95,000 barrels more than that in the preceding week but 1,164,000 barrels or 12.0 percent less than the 9,670,000 barrels produced in the corresponding week a year ago. Stocks of residual were drawn upon by 636,000 barrels during the week and declined to 39,086,000 barrels. That amount was 11,117,000 barrels or 22.1 percent less than the 50,203,000 barrels held February 3 last year.

New York's Supply of Oil Dwindles With Tug Strike

Return of the Port of New York's tug strikers was expected following government seizure February 6 of the strike-bound towboat industry. Balloting continued Friday, but decision on whether the men were to return to work was not to be made until Saturday. Meanwhile, the harbor remained paralyzed by the walkout of Local 333 of the United Marine Division of the International Longshoremen's Association, and metropolitan New York's chief problem was its rapidly dwindling oil and other fuel supplies.

Virtually 90 percent of the city's daily delivery of 4 million gallons of fuel oil was cut off and Mayor William O'Dwyer said that the city's 16-million gallon reserve supply had been about used up. Twelve public buildings had been closed Friday and others were ordered closed when only three days supply of fuel remained. Sixty-degree temperature control was ordered for these buildings. Schools were shut down until at least February 13 and subway and street cars were without heat. A dimout, reminiscent of war days, prevailed throughout the city.



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Patent Roundup

A Regular Feature of THE OIL WEEKLY

In this column will be reviewed patents dealing with drilling, producing and pipe line branches of the oil industry as they are issued by the United States Patent Office.

Patents recently issued by the United States Patent Office at Richmond, Va., include those listed below.

Printed copies of the patents listed are furnished by the patent office for 10 cents per copy and can be had by addressing the Commissioner of Patents, Washington 25, D. C.

* * *

Fluid Pressure Pump

A fluid pressure pump which pushes up oil from a well has been designed and patented by William N. Eddins of San Antonio and Carl C. Thurman of Freer, Texas. (No. 2,391,556.)

The device has a valve within the well tubing and a piston within a pump chamber. A traveling pipe is connected to the piston to conduct the oil from the valve to a point in the tubing above the chamber.

Traveling valves act to check the back flow through the pipe, while a slide valve in the tubing which is thrust into the chamber admits the pressure fluid into the chamber. A device on the slide valve has been designed in such a way as to admit the pressure fluid. The patent is unassigned.

* * *

Oil Flow Control

A device to control the flow of oil in a well has been patented by Robert O. Walton of Dallas and assigned to to the Merla Tool Corporation, also of Dallas. (No. 2,391,605)

A main valve controls the flow of oil through a passage between the outside and inside of the well tubing. The valve is constructed of a "yieldable" material sensitive to pressure. To close the passage, the valve assumes a normal "expanded" position, while the external pressure distorts the valve in such a way as to allow the oil to flow through the passage and into the tubing.

* * *

Oil Well Filter

An oil well filter that fits to the wall of a well tubing has been designed and patented by Kenneth A. Wright of Los Angeles. (No. 2,391,609)

The screen holder consists of two pieces of sheet metal fitted over each other with openings through which the oil can flow. One of the pieces has a tongue which can be deflected to close the opening. The patent is unassigned.

* * *

Drilling Mud

A patent for a new type of drilling mud has been assigned to the Stanolind Oil & Gas Company of Tulsa by Thomas H. Dunn, also of Tulsa. (No. 2,391,622)

The mud has a pH value of "at least" 10 and is suitable for use in brine producing wells. It has a base of starch and a "substance capable of reacting with calcium ions" to form an insoluble salt.

This basic substance is added in sufficient amounts to react with a "substantial portion" of the ions encountered during drilling operations. In this way excessive water loss is overcome.

* * *

Well Tester

A tool for testing the productivity of well formations has been perfected and patented by Alvin M. Bandy of Ganado, Texas. (No. 2,391,869, and unassigned.)

A "sample-taking assembly is designed so it can be lowered into a drill stem. Within the assembly are two chambers, one for fluid samples, the other for formation samples. The formation sample chamber is pivotally attached to the assembly and can be moved out through a slit in the drill stem and into the formation where it sucks fluids into the second chamber.

* * *

Three Patents

Jesse E. Hall of Weatherford, Texas, is credited with designs for three new pieces of oil field equipment. All of his patents are unassigned.

A pipe-line swab, essentially a long, central pipe, has discs of flexible material and closed chambers through which material can flow when the discs are compressed. (No. 2,392,144.)

A cement basket is composed of an upper and lower "rim" connected by flexible strips bent outward to form a receptacle for the cement. (No. 2,392,-145.)

The drill pipe wiper is made of rubber and is shaped somewhat like a bowl. In the center is an opening to admit the drill stem, while around it are a number of small "windows" through which waste material can flow. (No. 2,392,146.)

* * *

Cement Plugs

An improved method of placing cement plugs in a well bore has been perfected and patented by Kenneth A. Wright of Los Angeles. (No. 2,392,352.)

The patent, unassigned, calls for the wall of the well to be "mechanically abraded" at the point where the plug is to be placed. Under this process, the walls are scraped and a liquid is circulated in and out of the well to wash away the waste material. A quantity of cement slurry then is poured into the well and "mechanically agitated" by the abrading process. The excess then is withdrawn and the remaining cement is allowed to set.

* * *

Well Logging

A method of logging a well has been patented by George S. Bays of Tulsa and assigned to the Stanolind Oil and Gas Company of Tulsa. (No. 2,392,357.)

The well hole first is filled with a fluid which has been made to pass through a series of electrical currents set up between two points within the well. The currents control the flow of the fluid.

A log of the resistivity of the strata can be made by measuring the difference in voltage and flow of the fluid in comparison with the diameter of the hole.

* * *

Drilling Mud

Raymond W. Hoeppel of Arcadia, California claims to have perfected the art of drilling a well with the use of a "mud-laden fluid." His patent has been assigned to National Lead Company of Los Angeles. (No. 2,393,165.)

Hoeppel says the "aqueous" fluid first is contaminated by sulfate ions while the well is in the process of being drilled. A mixture of a salt of an acid "whose calcium salt is insoluble and of a base whose sulfate salt is insoluble, and which itself is sufficiently soluble to react with sulfates" is added to the drilling fluid.

* * *

Weighing Tools

Dewey R. Moore of Holdenville, Oklahoma has patented a device for weighing tools. (No. 2,393,053.)

The patent says a weight indicator is fastened to the dead end portion of a drilling cable. Also attached to the cable is a scale dial to measure the weight. The patent is unassigned.

* * *

Filtration Reducer

A method which is supposed to keep water from filtering into well formations, patented by Thomas S. Chapman of Houston, has been assigned to Standard Oil and Development Company. (No. 2,393,145).

The patent says a "filtration-reducing" gelatinized starch is added to a salt water drilling fluid. The amount should not exceed 3 per cent by weight of the drilling fluid itself.

Sinclair Man in Ethiopia For Oil Organization Work

John H. Lock, assistant to the president of the Sinclair Petroleum Company, will begin his field research duties in search for oil in Ethiopia before the middle of February. Lock, with Sinclair for six years before entering military service, sometime as a field geologist in the Gulf Coast area out of Baton Rouge, La., was scheduled to arrive February 1 in Addis Ababa where Sinclair organization headquarters will be maintained.

The Sinclair companies were granted a concession last September for the development of petroleum in Ethiopia. Its 50-year concession, subject to release provisions, covers the entire area of Ethiopia, about 350,000 square miles. All sub-soil rights in Ethiopia are vested in the government.

The concession grant specifies that after the first five years of exploration, areas equivalent to approximately 50 percent of the total area of the country shall be released from the agreement, and at the end of the last five years of the exploratory period an additional area of approximately 25 percent shall be released.

The company will build a refinery in Ethiopia "if and when the consumption of the country justifies it and such undertaking is economically sound."

The Ethiopian government will receive royalty on a stipulated basis for the first five years and thereafter at an increased rate subject to revision at the end of 15 years from the commencement of production.

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PAGES 3079 THRU 3098 IN THE COMPOSITE CATALOG

144 Miles of 18 and 20-Inch Gas Line In Ohio Projected by East Ohio Firm

Expenditures of approximately $10 million are proposed in two applications for gas-transmission system expansion submitted last week to the Federal Power Commission.

An application from the East Ohio Gas Company seeks authority to construct an 18-inch connecting transmission line 95 miles in length from its Pipe Creek Station to Austintown Township, O., and a 49-mile, 20-inch connecting line from Austintown Junction to the Dunham Station. The line, to cost $4,620,000, would have an initial capacity of 119 million cubic feet per day.

The company explained that its peak day requirements this winter will be 435 million cubic feet, of which it will be able to supply only 355 million cubic feet, and it is proposed to make up the deficiency by obtaining additional gas from the Hope Natural Gas Company through the new facilities.

To provide the additional supplies sought by the East Ohio company and other customers, the Hope Natural Gas Company filed an application for authority to build a number of major additions to its existing transmission system in West Virginia, totaling 143 miles of pipe line, and additions to compressor stations at a cost of $5,327,500.

The application explained that although the company, through the installation of dehydration and gasoline facilities and the building up of storage pools, has increased the deliverability of its system to more than 400 million cubic feet daily, "experience during the present winter of 1945-1946 has shown that domestic consumption is far outstripping all previous estimates."

O. F. Moore Named Head of Ohio Pipe Line Department

O. F. Moore

Charles Bunje

Charles Bunje, Jr., has retired as vice president and manager of The Ohio Oil Company's pipe line department and has been succeeded by O. F. Moore, former assistant manager of the department and assistant secretary of the company, who has been elected a vice president.

Bunje became associated with the Ohio company in 1907, and when The Illinois Pipe Line Company was formed in 1915 to take over the pipe line operation of the Ohio firm, he retained the same position. In 1926 he became vice president, treasurer, and a director, and in 1933 he was elected president and general manager, positions he held until the dissolution of The Illinois Pipe Line Company at the end of 1942. He was then elected a vice president of The Ohio Oil Company and made manager of the pipe line department.

Moore has been connected with the company for 37 years. He became assistant secretary in 1942 and in May, 1944, was named assistant manager of the pipe line department.

FPC Authorizes Construction Of Kansas and Iowa Lines

The Federal Power Commission has authorized the Northern Natural Gas Company to construct facilities north of Clifton, Kan., at a cost of $1,407,748. The program includes laying of 20 miles of 20-inch loop line in Iowa; ten miles of 24-inch line in Kansas; seven miles of 24-inch loop line near Bushton, and 13½ miles of 24-inch line near the Beatrice station.

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Well Near Tip End of South America Good for 200 Barrels Daily on Choke

Further details concerning the oil strike in the District of Majellanes, Chile (page 11 THE OIL WEEKLY, January 7, 1946) indicate that when completed the well should make at least 200 barrels daily through a ¼-inch choke.

The Compañia de Fomento de la Producción's No. 1 Spring Hill, on Isla Grande, Tierra del Fuego, was drilled by the George Livermore Corporation of Lubbock, Texas, for the Chilean government. The test was spudded in September, 1945, and it was completed December 29, 1945.

Good drilling time was made in the Tertiary beds, 323 feet of 13⅜-inch casing was set 1267 feet of 9⅝-inch and 6784 feet of 7-inch, putting the hole in good shape for bringing in a producer at 7438 feet. Glen M. Ruby, well-known geologist and vice president of United Engineering Corporation of Los Angeles, has been in charge of these petroleum explorations along the Straits of Magellan for the Chilean government since 1941 and had been supervising the drilling and testing of the two wells started last fall but left early in December for a short trip to China. He had forecast a sand at 7500 feet. The test is on a geophysical anomaly, there being no geological evidence at surface to work with.

Drill Stops in Sand

At 7410 the drilling indicated a soft formation believed to be sand. A core was taken, 7419-7438, which showed 6 feet of sand with a good odor and cut, 3 feet of it rather hard and 3 feet fairly soft with a porosity estimated at 20 percent. There is reason for believing that 15 feet of effective sand was cut, but the drill stopped in sand and there may be more. The formation immediately overlying has been identified as Cretaceous.

A drill-stem test was made of the sand section and it flowed in 9 minutes, showing considerable gas. The breakdown disclosed 18 stands of clean oil and 3 of fresh water, which may be drilling fluid. Since 5-inch casing was not available on location 2½-inch tubing was run, the last joint perforated with 24 holes. After washing, but not swabbing, the well made an estimated 750 barrels of oil in 30 hours, on various sized chokes from ⅛ to ¾-inch. The last test on a ¾-inch choke showed 80 barrels in 75 minutes. It seems probable that the well will make at least 200 barrels daily if flowed on a ¼-inch choke.

The oil was not entirely clean and sand was cutting the valves, so the well was shut in. Casing pressure, shut in, was 1400 pounds, and tubing pressure 1250 pounds, rather low for its depth. If the 2½-inch tubing can be pulled, a 5-inch liner will be set with 40 feet of slotted pipe on bottom. The oil is of paraffine base, apparently with a good lube content and gasoline 20 to 25 percent, probably low octane, but a careful analysis has not yet been obtained.

Refinery Plans

For several months an American refinery technician, Martin J. Gavin, recently with PAW, has been in Santiago for the Chilean government, making a survey of refinery possibilities there. Now that he has been furnished with a sample of the crude, he can revise his plans. A 50-mile pipe line will carry the crude from the field to storage tanks to be erected at Jente Grande Bay, a landlocked harbor on the north shore of Isla Grande, and a small topping plant may be erected there to take care of local needs. The site of the principal refinery, probably Valparaiso, has not yet been announced.

Excitement in Chile is great and hopes run high. Already the Chileans can visualize their country as self-sufficient in oil and even an exporter of crude or products, to the great benefit of its foreign exchange position. While Tierra del Fuego seems remote, comparative distances in nautical miles to important consuming centers on the West Coast and East Coast, illustrates its strategic position:

Valparaiso from Punta Arenas 1438 miles; from Talare 1800 miles.

Buenos Aires from Punta Arenas 1600 miles; from Aruba 5100 miles.

Rio de Janeiro from Punta Arenas 2700 miles; from Aruba 4000 miles.

It remains to be seen whether the "Company for the *Development* of Production" will continue its exploration and operation for additional crude oil resources or will turn those activities over to commercial entities, as it has done in other industries in which it once engaged.

Creole's Production Now At 485,000 Barrels Daily

Net crude oil production by Crude Petroleum Corporation for 1945, including purchased royalty oil, was about 20 percent higher than in 1944 but earnings did not increase correspondingly because of the extraordinary income tax recently levied by the Venezuelan government. Currently the company's production continues at a high level, averaging 485,000 barrels daily.

Iran Said to Fear Russian Economic System in Oil Area

Recent return of the rail lines in the northern provinces of Azerbaijan, northern Iran, to the Iranian government was regarded as the "first Russian gesture of friendship toward the new government," and speculation indicated that it was perhaps the prelude of a request by the Russians for the use of the lines for movement of troops out of the area. Iranian sources would not comment on the expected effect on the section of the principal railroad within the borders of the new self-proclaimed government of Azerbaijan.

The scheduled time for the Russians to start moving troops is March 2 but observers see no easing of the situation as a whole before final settlement of the real problem, i.e., whether or not Rus-

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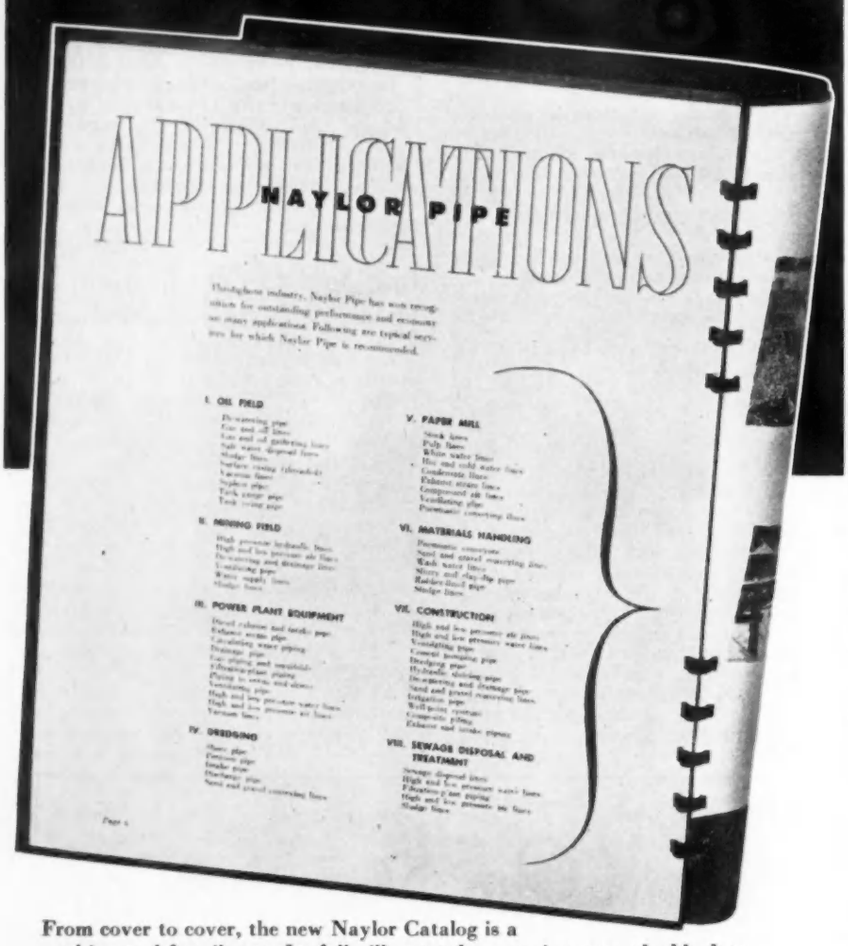

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sia succeeds in obtaining Iranian oil concession. In 1944 the Russian vice commissar of Foreign Affairs termed the Iranian government "disloyal" for refusing to grant oil concessions to the Soviet until after the war. Iran explained then that the public would consider as granted under duress such concessions because the area was under Russian occupation.

The Soviet has long sought concessions for exploration in the northern part of the country such as are held in the central portion by British interests and in the south by Americans' The region has been considered favorable for oil exploration, and has been the basis for much displomatic maneuvering between Russia, Britain, and Iran. Russians have charged that England and America have influenced the Iranians in postponing requested concessions to Russia, since the two former countries have made detailed geological surveys, and that strong British and American interests will try to outbid the Soviet for oil rights there.

Iranians fear imposition of the Russian economic system on the region if oil rights were granted. Anglo-American companies, while they may influence the central government to some extent, have everywhere shown that they do not wish to interfere with local administration and economic systems, and pay well for what they take out of the country.

Japanese Getting Gasoline From Rubber at War's End

At the end of the war the Japanese were making 92 octane gasoline from pine oil and had perfected a process of turning natural rubber into synthetic gasoline and lubricants. As the war drew to a close, they accumulated thousands of tons of rubber for which they had no need, and a cracking process was developed by which gasoline and lubricants were produced, the opposite of the American process by which synthetic rubber was made from petroleum. By V-J day, a plant for the conversion of rubber had been set up and a high yield of usable products for each pound of natural rubber was being obtained.

Commander G. L. Neely of Berkeley, Calif., head of a naval technical mission investigating team, and peacetime manager of the lubricant department of Standard Oil Company of California, recently returned from an inspection trip to Japan, and reported on the fuel situation in the Chicago *Tribune*. "In December, 1944, the Japs began research on the distillation of oil from pine roots, planning to install 3600 retorts with a capacity of 2,500,000 barrels of oil yearly," he said. "By June this production rate was nearly achieved. From pine oil they were making 92 octane aviation gasoline of excellent quality." Within a few months of feverish experimentation they tested orange peeling, pine roots, pine needles, tree bark, sweet potatoes, soy beans, fish, coal and shale.

Sweet potatoes furnished ethyl alcohol which was used as fuel in training planes.

At Ofuna, the mission found a highly developed pteroleum research center. About 3200 men were employed in 74 buildings scattered over 100 acres, with many of the facilities underground. Similar, though smaller facilities were maintained at Fuchu, 15 miles west of Tokyo.

☆ Oklahoma

Skelly Opens New Gas Area; Logan County Pool Opener Due

Skelly opens new gas area in Hughes County; Wilcox pool opener looms in southeastern Logan County; Wood Oil Company extends West Moore pool; Garvin County wildcat perforates Pennsylvanian; Okfuskee County gas discovery sprays oil.

Hughes County: Another gas area for northern Hughes County, scene of considerable activity and several new discoveries during the past few months, again claimed the Oklahoma spotlight as Skelly Oil Company completed Price 1, SW NE NW 26-8n-10e, for an estimated 10 million cubic feet of wet gas daily from the Cromwell sand. The wildcat is approximately 3½ miles southeast of the old Yeager pool. Pipe was perforated opposite the Cromwell at 3370-3420 feet with production zone logged between 3320-60 feet. The strike is on an anticlinal fold and may cover a fairly large area.

Logan County: A possible pool opener about 3 miles north of the Arcadia Northeast pool loomed at Sinclair Prairie Oil Company et al's Teuscher 1, SE SE SW 34-15n-1w, as operators were preparing to drill-stem test saturated Wilcox sand between 5810-5933 feet. Casing was set at 5933 feet, total depth. Cores from 5804-17 reported sandy dolomite with saturation and stains, and from 5882-36 feet where full recovery was had the formation showed good saturated sand. The hole was carried to 5909 feet and eelctric log run to 5906 feet. A third core was cut from 5909 feet to 5923 feet to recover 11 feet of dolomite and 3 feet of Second Wilcox sand, well saturated. Top of the Wilcox was reported at 5920 feet, which is high compared with the nearest producer in the Arcadia pool.

Cleveland County: Wood Oil Company extended the West Edmond pool a location west as Stotts 1, NE NE SW 30-10n-4w, was showing for an estimated 1400 barrels of oil per day from the Wilcox sand zone topped at 8745 feet. Production was based on a 6-hour gauge through 1-inch choke with the well flowing 359 barrels of oil. Skelly Oil Company completed Divis 1, SE SE NW 30-10n-4w, on the northwest side of the pool. Total depth was 8860 feet with plugback to 8792 feet, where the well flowed 165 barrels of oil daily through choke from the Wilcox sand zone. Mid-Continent Petroleum Corporation's Carr 2, SW NE SW 29-10n-3w, is drilling below 7365 feet.

Okfuskee County: A new oil pool in an area where a number of small gas fields have been producing for some years may be opened at Public Service Corporation's Rose 1, CNW SE 28-10n-12e, about 6 miles southeast of Weleetka. Topping Gilcrease sand at 2355 feet and with 5½-inch casing set at 2353 feet and the hole drilled to 2363 feet, the well flowed 2½ million cubic feet of gas per day with an estimated 2 barrels of oil an hour. Since there is a good market for the gas the well will be completed as a gasser. The oil show is attracting attention to the area where operators hope to develop commercial oil production. The Gregory oil pool is about 3 miles west of the Rose well.

Garvin County: Globe Oil Refining Company et al's Gibson 1, NE NW NE 9-3n-1w, wildcat 6 miles east of Antioch, perforated casing opposite the Pennsylvanian at 6533-39 feet and after running tubing swabbed some fluid and drill mud but no salt water. The test is a current "hot spot" with testing delayed because of breakdowns. The well showed for considerable oil on drill-stem test in the lower Pennsylvanian. A drill-stem test from 6519-54 made an estimated 6 million cubic feet of gas daily and flowed oil by heads. When the tool was pulled after an overnight shut-in it had 500 feet of oil and about 4000 feet of oily fluid. West of Antioch, Sohio Petroleum Company's Tolbert 1, wildcat in NE NW NE 9-3n-1w, was swabbing. Total depth is 4587 feet with casing perforated between 4552-53 feet. When first tested the well kicked off, flowing an estimated 2 million cubic feet of gas daily plus some salt water.

McClain County: Excessive mud which encroached during testing appears to have been overcome by The Carter Oil Company at Vierson 1, CSE NE 8-7n-3w, Hunton zone producer in the Washington pool. The well went dead several times before it resumed production, flowing 47 barrels of oil in 4 hours. Tubing was raised to 9683 feet and with casing perforated at 9668 feet swabbed 5½ barrels of oil in an hour, then flowed 127 barrels of oil in 13 hours, showing only 2 percent mud. After a 3000-gallon acid treatment and an oil flush the swab was run 4 times to recover 96 barrels of oil. It then flowed 645 barrels of oil, including 450 barrels of flush oil in 24 hours showing 40 percent mud and acid water.

H. L. Hunt Pays Top Price For Oklahoma School Lands

In acquiring ten tracts of Oklahoma State School Board lands in Beaver County, H. L. Hunt of Dallas, paid top price for the acreage and agreed to drill 2 test wells offsetting state-owned tracts. The wildcats will be in the Anadarko Basin area but locations have not been announced.

Hunt paid $2000 for ½ the mineral rights in the southeast quarter of 20-6n-21ecm, and $2000 plus a drilling obligation on the north half northeast quarter of 21-6n-21ecm, and the same considerations for the west half of northeast quarter of Section 18-6n-22ecm. The acreage is southwest of Stanolind Oil & Gas Company discoveries in Meade County, Kans., where oil and gas production has been developed in the Mississippi lime zone.

Wells Completed in United States in Week Ended February 9, 1946

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS This Week	Last Week	Cumulative This Year	Cumulative Last Year
Alabama	....	....	....	....	....	....	....	....	....	....	....	....	3	3
Arkansas	4	....	....	....	4	....	....	....	....	....	4	3	19	16
California	222	....	....	3	25	2	....	....	3	3	30	35	226	231
Colorado	3	....	....	....	3	....	....	....	1	1	4	5	14	6
Florida	....	....	....	....	....	....	....	....	1	1	1	1	4	1
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Illinois	27	....	....	6	33	....	1	....	9	10	43	30	152	200
Indiana	3	3	....	1	7	....	....	....	....	....	7	3	28	28
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Kansas	28	2	1	11	42	....	1	1	3	5	47	38	253	148
Kentucky	3	1	....	2	6	....	....	....	....	....	6	6	51	68
Louisiana	15	....	....	2	17	....	2	....	3	5	22	24	136	114
North Louisiana	8	....	....	1	9	....	2	....	3	5	14	16	75	43
South Louisiana	7	....	....	1	8	....	....	....	....	....	8	8	61	71
Michigan	6	....	....	3	9	....	....	....	11	11	20	....	80	87
Mississippi	3	....	....	....	3	....	....	....	1	1	4	5	28	41
Missouri	....	....	....	....	....	....	....	....	....	....	....	....	1	7
Montana	5	1	....	3	9	....	....	....	....	....	9	2	38	18
New Mexico	9	1	....	1	11	....	....	....	1	1	12	6	50	60
New York	15	....	10	....	25	....	....	....	....	....	25	25	150	78
Ohio	....	....	....	....	....	....	....	....	....	....	....	5	16	78
Oklahoma	21	4	1	8	34	1	1	....	4	5	40	47	309	246
Pennsylvania	27	....	15	....	42	....	....	....	....	....	42	47	274	257
Texas	79	11	1	18	109	2	5	3	29	37	148	117	878	759
E. Tex. Bor. Co.'s	2	1	....	....	3	....	....	1	....	1	4	3	23	4
Rest of E. Texas	7	....	1	....	8	....	....	....	....	....	8	6	50	25
North Texas	18	....	....	8	26	....	4	....	4	8	34	34	243	198
W. Central Tex.	4	....	....	1	5	1	....	....	4	4	10	12	80	32
West Texas	21	....	....	1	22	1	....	....	8	8	31	26	174	196
Tex. Panhandle	4	8	....	....	12	....	....	....	....	....	12	10	56	68
G. Coast, Upper	12	....	....	5	17	....	....	....	7	7	24	11	87	70
G. Coast, Lower	10	1	....	1	12	....	1	2	4	7	19	9	121	108
Southwest Texas	1	1	....	2	4	....	....	....	1	1	5	5	34	52
S. Central Texas	....	....	....	....	....	....	....	....	1	1	1	1	10	6
West Virginia	....	....	....	....	....	....	....	....	....	....	....	15	55	76
Wyoming	7	....	....	....	7	....	....	....	1	1	8	5	20	14
Total U. S.	277	23	28	58	386	5	10	4	67	81	472	419	2,785	2,538

* Includes distillate wells. † Includes salt water disposal wells.

☆Kansas

Saline County Wildcat Logs Show of Oil in Viola Lime

Saline County wildcat logs oil show in Viola lime; Palco townsite discovery pumps 70 barrels; Cities Service to test Kingman County wildcat; Marion County test gets hole full of water.

Saline County: Currier & Keys Drilling Company may open a Viola lime pool on the southeastern edge of the Salina townsite. Crawford 1, SE NW NW 18-14s-2w, topped Viola lime at 3267 feet. With pipe set on top of formation and after drilling in the wildcat had 1000 feet of oil in the hole in 12 hours. The test is about ½ mile west of production in the Salina pool.

Rooks County: Keyes Drilling Company's Meil 1, CN½ NE NE 20-9s-20w, discovery well for the Palco Townsite pool, pumped 70 barrels of oil per day on final test after being acidized with 6000 gallons. Production is from Arbuckle lime topped at 3847 feet and penetrated to 3865 feet, total depth. Structurally the well checks low and it is doubtful if the producing area will be large.

Kingman County: Cities Service Oil Company was preparing to test Kincaid 1, SW SE SW 8-29s-5w, rank wildcat about 20 miles from the Clearwater oil pool, which is the nearest production. Tested will be a slight oil show in both Lansing and Kansas City lime zones. Lansing was cut at 3100 feet and the Kansas City at 3448 feet. Oil shows were reported between 3576-88 feet. Operators perforated both zones.

Marion County: Tests at S. W. Forrester's Pettison 1, SW NE NE 18-21s-4e, recovered a hole full of water and the wildcat has been abandoned. Shows were reported in the Viola lime topped at 2596 feet and drilled to 2640 feet, total depth. The wildcat is about a mile northwest of production in the Covery-Sellers pool which has been defined on the north, northwest and west.

Cowley County: Hartman and Blair's Smith 1, SE SE SW 15-33s-3e, discovery well in the Rainbow Bend Northeast pool, has been assigned a pump potential of 25 barrels daily from the Mississippi lime at 3258-61 feet. In preliminary tests the well swabbed about 2½ barrels of oil an hour.

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☆ West Texas

Goldsmith Field Test Has Oil Flow from Clear Fork

Oil flows from Clear Fork on north edge of the Goldsmith field; Holt lime discovery in Winkler County proceeding to Clear Fork before completing; Howard County records first pre-Permian producer.

Penwell Field: Phillips Petroleum Company's Eidson-Scharbauer 1, ¾ mile west of the north end of the field and a prospective oil producer from the 4400-foot Holt zone, logged nominal oil staining and porosity in the Clear Fork at 6160-70 feet, and was drilling lime at 6250 feet. The Texas Company's Connell 29, 1½ miles west of the field and a failure in the Ordovician, squeezed perforations at 4590-4615 feet in Holt after swabbing oil and water. Higher perforations in this zone will follow, with favorable prospects of making a commercial well.

Wildcat Failures: De Kalb Agricultural Association's Jones-Humble 1, Western Andrews County, was abandoned in dry Clear Fork at 7353 feet. In Reagan County, Skelly Oil Company's T. P. Land Trust-Reagan 1, quit in lime at 3366 feet. Gulf Oil Corporation's Atlantic-Cordova 1-E, west edge of the Crane County sector of the McCamey field, abandoned with a prolific flow of sulphur water at 6929 feet in Ellenburger, topped at 6740 feet.

Ector County: Stanolind Oil & Gas Company's Scharbauer 3-Q, Ellenburger failure on the north edge of the Goldsmith field, confirmed earlier prospects of opening Clear Fork (Tubb) production in flowing 64 barrels of oil and 3 barrels of bottom sediment and water on 20-hour natural test through 1/8-inch choke from perforations at 6200-90 feet. The company's Williamson 1, north-West edge of the North Goldsmith field, was drilling Basal Simpson at 10,035 feet, while its Kayser 1, 1¼ miles southwest of the Foster field, was drilling lime and shale at 9850 feet, having logged the base of the Permian at 8380 feet. The latter passed up favorable oil showing at 8516-60 feet.

Cities Service Oil Company's Parker-Wentz 1, Ellenburger test for the southwest side of the Harper structure, entered the Pennsylvanian at 8370 feet and

Canyon at 8460 feet, by revised measurements, and was drilling lime and shale at 9515 feet.

Amerada Petroleum Corporation's T. P. Land Trust 1-A, C NW NE T&P 19 and offsetting production on the west side of the TXL field, was abandoned at 8140 feet after a nitro shot in the Devonian. This field has 24 drilling, 5 wells testing, and 5 derricks and rigs. The bulk of the new activity is assigned to the Ellenburger sector, which may embrace greater areas than the Devonian pay.

Pecos County: G. F. Aldrich et al's State National Bank 1, C SW NE T. & St. L. Ry. 25, Block 140, and 1¾ miles south of the Apco-Warner deep field, set pipe on top of Ellenburger at 4590 feet with the hole bottomed in granite at 4745 feet. A drill-stem test at 4590-4700 feet yielded 150 feet of gas-cut mud. This wildcat is circled by outlying failures. Phillips Petroleum Company's Elsinore 1, deepest active wildcat, was drilling unidentified lime at 11,785 feet.

Winkler County: Texas Pacific Coal & Oil Company's Brown-Altman 1, account 4, C SW SW PSL 25, Block B-5, pending Holt (Glorietta) lime discovery between the Emperor Deep and Weiner fields, was drilling at 5350 feet, and will explore the Clear Fork (Tubb) zone due near the 5800-foot level before running pipe. The Holt was entered at 4750 feet with maximum oil saturation at 4776-98 feet. Bottom-hole water was revealed by drill-stem tests at 4875 feet.

Development of the Ellenburger sector of the Keystone field promises to hit a new peak volume, providing the steel strike is terminated shortly. Currently there are 28 drilling and 5 wells in process of completion while there are 3 derricks and rigs and 8 locations, making a total of 44 operations.

Irion County: Shell Oil Company's Tankersley 3, ½-mile north of its Tankersley field discovery, was due to set pipe after drill-stem test in Pennsylvanian at 7138-7203 feet yielded 450 feet of oil and 2150 feet of oil-cut mud.

Howard County: Continental Oil Company and Group One Oil Corporation's Settles 1-D-133, Ellenburger failure for the Howard-Glasscock field that was plugged back and worked over, pumped 31 barrels of 46-gravity oil and 3 barrels of water initial from Pennsylvanian perforations at 8910-9080 feet. Water was found in the Ellenburger at 9904-10,122 feet.

Cochran County: Gulf's Taylor 1, 1¼ miles north of the Landon pool, was showing salt water on preliminary swabbing test after acidizing San Andres open hole at 5000-5149 feet. Stanolind's Brown 1, offset to its discovery, swabbed 196 barrels of oil and 4 barrels of bottom sediment and water after using 3000 gallons of acid at 5040-77 feet, having plugged back from 5085 feet.

Ward County: Continental's Scott 1, which has been showing for a small Delaware lime pumper, encountered water in deepening to 4920 feet.

Texas Field Named

The name Midfields has been given to the field discovered by Sun Oil Company's R. T. Strnadel 2, I. & G. N. Survey 7, Abstract 311, Matagorda County, Texas, according to A. J. Bauernschmidt, Jr., chairman of the Nomenclature Committee of the Houston Geological Society.

4 Important "Harrisburg"

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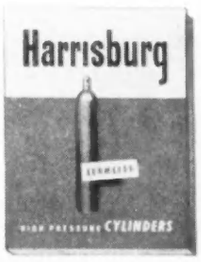

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☆Central West Texas

Taylor County Has Pumper; Palo Pinto Strike Pending

Taylor County has discovery pumper; Ellenburger strike pending in Palo Pinto County; Shackelford County wildcat showing oil in Mississippian.

Taylor County: West Central Drilling Company and J. C. Karcher's Ingram 1, Labor 18, League 146, Grimes County School League and 4 miles south by east of Merkel, pumped 56 barrels of oil and 17 barrels of water on 9-hour preliminary test of perforations at 2741-42 feet. Production is from the Upper Hope, which logged oil saturation at 2740-50 feet, with water anticipated from the lower section. The well was drilled to 3110 feet in the Canyon series. Owners hold lease on 1228-acre supporting block, and are starting an offset. This strike involves a narrow structure that is expected to produce from shallower pays near the apex.

Palo Pinto County: Ashland Oil & Refining Company's S. F. Lee 1-A, southwest corner of TE&L Co. Sec. 1744, bailed ½ barrel of oil hourly after drilling 10 feet of Ellenburger to 5050 feet. No water appeared during the test. Five-inch pipe was cemented at 5034 feet to try for completion. This wildcat passed up a light gas flow at 4264-69 feet.

Shackelford County: Allied Oil Company's Sanders 1, entered the Mississippian at 4418 feet, and bailed 1 barrel of oil and ¼ barrel of water hourly from saturated lime at 4440-42 feet. The test was drilling at 4485 feet on Ellenburger objective, with nominal oil saturation in the last 12 feet of hole. The showing is considered ample to warrant setting pipe later for a production test. This wildcat is supported by a block of 7000 acres.

Jones County: H. L. Hunt's McCoy 1, T&P Ry. 2, Block 16 and 2000 feet north by east of the North Wimberly pool, flowed oil by heads and will be equipped to pump. The production is from Gunsight perforations at 2570-75 feet. Earlier perforations in the lower section tested salt water. McCoy 1 is higher structurally than the discovery. Crown Central Petroleum Corporation's Daniell 1, east offset to the North Wimberly discovery, was showing for a producer from the Gunsight at 2580 feet.

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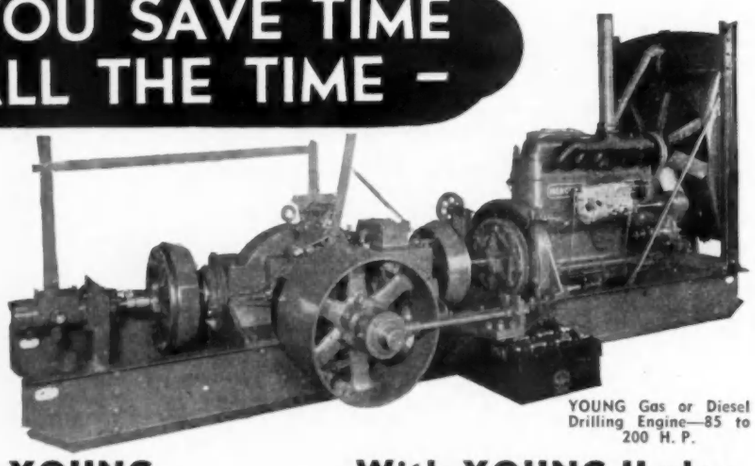

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☆North Texas

Wichita Ellenburger Prospect Is Trying for Water Shutoff

Northwestern Wichita County Ellenburger prospect trying for water shutoff; 2 new tests assigned the Heard deep area, Clay County; Oil Creek strike in Grayson County continuing to Ellenburger.

Wichita County: National Associated Petroleum Company's Proud 1, Block 189, Waggoner Colony Lands and 3¾ miles east by north of the National 4-pay field, was plugging back after swabbing 8 barrels of oil and 40 barrels of water on 12-hour test after acidizing Ellenburger open hole at 4501-36 feet. A new producing area is expected to result from the showing made by this wildcat, and more tests are scheduled.

Clay County: Continental Oil Company is starting Edwards 1 as a southwest offset to its Heard field Ellenburger oil discovery for the south end commercial production in the Bend. Panhandle Refining Company's Segler 1, southeast corner of Lot 16, W. A. Farris Survey, A-146, is a northwest outpost for the area. L. T. Burns et al's Ford 1, ⅜ mile northwest of the discovery, is drilling shale below 3850 feet, with the Bend due near the 5700-foot level.

King County: The Superior Oil Company's Pitchfork Land & Cattle Company 1, NWc Section 171, J. H. Gibson Survey, and on a 20,000-acre lease, showed gas-cut mud with salt water on drill-stem test at 6080-6130 feet after plugging back from granite at 7142-45 feet. The company is starting its second deep test in the southeast corner of the same section.

Cooke County: Standard Oil Company of Texas' Beasley 2, which has been showing for a probable Ellenburger oil dsicovery for the south end of the Sivels Bend field, cemented 7-inch pipe at 9090 feet with the hole bottomed at 9164 feet in dolomite. The Ellenburger was entered at 8640 feet, and first oil was encountered in running a drill-stem test at 8905-34 feet. Soft zones at 9050-59 feet and 9109 feet resulted in nominal loss of rotary returns.

Sun Oil Company's Midkiff 1, southeast edge of the field and offsetting the 6300-foot sand discovery, flowed 5½ barrels of oil hourly, averaging 5 percent water, on ¼-inch choke from open

hole at 6290-6309 feet. Pumping unit will be installed as it is not expected to maintain its flow due to the water. Sinclair Prairie's Thomson 3, north edge of the field, is drilling shale below 7584 feet after recovering 160 feet of heavily oil-cut mud when teser was used at 7359-86 feet. The field has 1 producer in this zone. Six rotary rigs are active in the area, and 3 additional tests are scheduled.

Grayson County: Denver Producing & Refining Company's Jewell 1, Wm. H. Allen Survey and the Strawn discovery for the Sadler pool, is drilling shale below 8720 feet after logging promising oil-saturated sand in the Oil Creek at 8468-8545 feet. This deepened wildcat has not attempted a drill-stem test because of sidertacked hole.

Standard Oil of Texas' Mitchell 1, Sherman deep prospect, was drilling shale at 5310 feet.

Montague County: Nu-Enamel Oil Operating Company's Admire 1, G. W. Fisher Survey and 3½ miles north of Bonita, cemented 5½-inch casing at 5170 feet after drilling to 6221 feet in barren Ellenburger, topped at 5895 feet. It will test favorable show of oil and gas and possible water in Bend, topped at 5050 feet. S. D. Johnson et al's Williams (Willis) 1, S. Cary Survey and 1¾ miles northwest of the Forrestburg pool, logged oil-saturated conglomerate at 6831-48 feet, and drill-stem test was pending.

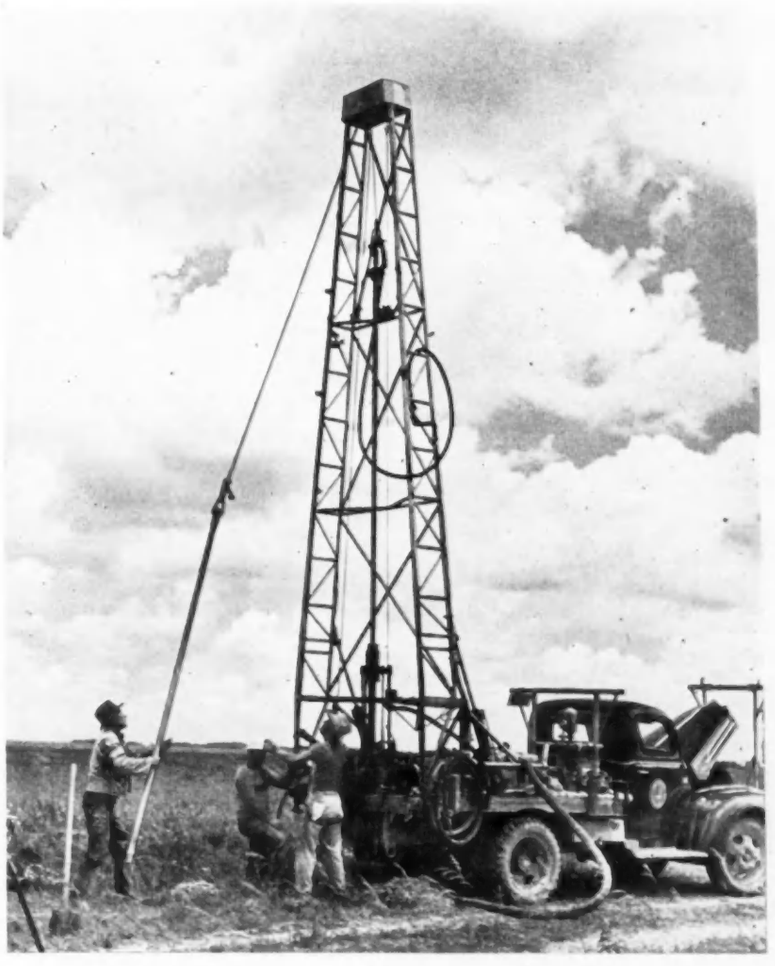
W. B. Berwald Named Chairman Of Mid-Continent AIMME

William B. Berwald, division petroleum engineer for The Ohio Oil Company, Tulsa, was elected chairman of the Mid-Continent Section, American Institute of Mining and Metallurgical Engineers and with other newly elected officers will be installed February 11 at the Mayo Hotel. George Elliott, head of reservoir engineering, Phillips Petroleum Company, Bartlesville, Okla., will speak.

William B. Berwald

Other officers elected: R. C. Earlougher, president, Earlougher Engineering, Tulsa, first vice chairman in charge of programs; W. A. Bruce, head of production research for The Carter Oil Company, second vice president and head of membership and publicity committees; P. P. Manion, proration engineer, Stanolind Oil & Gas Company, secretary-treasurer.

Executive committee members include Herbert F. Beardmore, chief engineer, Barnsdall Oil Company; L. L. Gray, chief production engineer, Gulf Oil Corporation; R. G. Hamilton, district manager, Schlumberger Well Surveying Company; H. M. Cooley, assistant metallurgical engineer, Bethlehem Steel Corporation; W. H. Carson, head of petroleum engineering, University of Oklahoma, Norman; E. A. Stephenson, head of petroleum engineering, University of Kansas, Lawrence; R. W. French, assistant manager of production, Continental Oil Company, Ponca City, Okla.



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☆ East Texas

Paluxy Oil Zone Passed Up By South Tyler Field Test

Paluxy oil zone passed up by South Tyler field test; Kaufman County prospect yields water in the Woodbine; record depth test for district by Phillips Petroleum will be abandoned shortly.

Rusk County: Delta Drilling Company et al's Rayford 1, 2 miles south of Henderson, resumed drilling after testing dry in basal Rodessa at 7120-39 feet. An earlier test in the upper section yielded salt water at 6423-38 feet.

Wood County: McCreight 1, 3½ miles northwest of the Quitman field, was taking sidewall cores prior to abandoning at 8000 feet in Travis Peak, topped at 8602 feet. No shows were recorded.

Kaufman County: Bobby Manziel et al's Williamson 1, Kemp townsite test and within a large drilling block assembled by a major company, tested salt water in Woodbine, topped at 2978 feet, and was awaiting orders at 3014 feet. This wildcat was originally scheduled to explore the Paluxy.

Chapel Hill Field: Sinclair Prairie Oil Company's Shofner 1, which temporarily held the district depth record in junking the lower section of the hole at 13,577 feet while showing high-pressure gas in the Cotton Valley, is making a gas-distillate producer after plugging back to 8079 feet. A natural flow of 6 barrels of 58-gravity distillate hourly, with 3,490,000 feet of gas daily through ¾-inch choke, was developed from perforations at 7963-80 and 8010-58 feet in the Pettit, topped at 7925 feet.

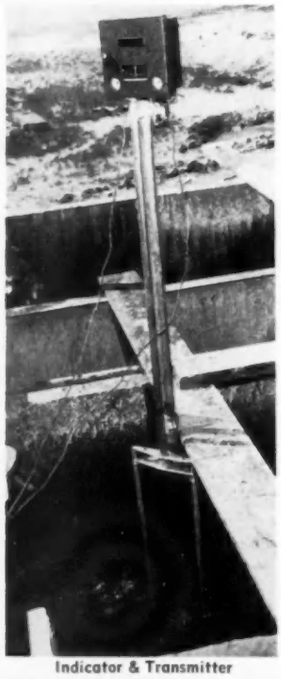
South Tyler Field: Phillips Petroleum Company's Hughes-Vannie 1, which logged about 25 feet of effective pay near the 7500-foot level in the Paluxy, was drilling shale at 7740 feet to explore the regular 9900-foot Rodessa oil zone. The absence of Paluxy pay in previous tests is attributed to the structure being faulted. The company has scheduled a new test to explore the Paluxy. Phillips' Englander 1, 3½ miles south by west of the field and the deepest test in the district, was drilling unidentified sand and shale at 13,796 feet.

Hopkins County: Delta Drilling Company's Livington 1, Nacogdoches University League 10, failed to make a commercial producer in testing gas, distillate and water from Gloyd perforations at 8005-32 feet, and will plug back for completion try in the 4000-foot sub-Clarksville. This wildcat pasesd up oil saturation in the latter zone without testing, but the showing resulted in considerable lease and royalty trading.

BLOWOUT PREVENTION

BY PIT LEVEL OBSERVATION

Pit-O-Graf



Indicator & Transmitter

Recording Unit

Experienced drillers and operators are well aware of the danger signaled by variations of fluid level in the pit. The Pit-O-Graf continuously and automatically transmits mud pit level variations to a chart on the derrick floor, in constant view of the driller. This accurate and instant recording of mud pit level fluctuations is warning of a potential blowout in ample time to take steps for its prevention. There can be no doubt as to whether or not the volume of mud in the suction pit is increasing or decreasing when the Pit-O-Graf is used.

The Pit-O-Graf transmitter unit is mounted in the mud pit with a perfectly balanced float resting on the fluid. The slightest rise or fall of the float is immediately transmitted to the recorder, and shown in tenths of a foot on a 24 hour chart. Intensive research and more than a year's exhaustive field tests have demonstrated the value and importance of the Pit-O-Graf. Write for new bulletin of detailed information.

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☆ East Texas Border

Marion Wildcat Completes As Small Gasser in Rodessa

Marion County wildcat completes as small gasser in Rodessa; wildcat near Elysian fields in Harrison County shows gas and oil and continues drilling; stuck drill pipe necessitates plug-back job in Shelby County deep test.

Harrison County: Rogers Lacy's wildcat, Scott 1, Alex Johnson Survey, 2½ miles southwest of Jefferson, completed as a gas producer from the Hill zone of the Rodessa. The test flowed 1,640,000 cubic feet of gas per day and a small amount of distillate from perforations at 5906-14 and 5922-38 feet, which were acidized with 2500 gallons of acid. Total depth of the well was 7530 feet, plugged back to 5950 feet.

R. W. Williams' J. M. Furrh Estate 1, wildcat in the Francis O'Neil Survey, 3 miles west of Elysian field, on a drill-stem test at 6430-40 feet through casing perforations, flowed a small amount of gas with no water. An earlier test at 6500-6600 feet yielded a small gas show. Both zones are in Travis Peak. Best hope for oil production is considered in the top part of the Travis Peak at 6285 feet where it made some good oil on a drill-stem test. This zone is expected to be tested next.

Placid Oil Company's Mattie Lee Knox 1, Benjamin Parker Survey, a mile southwest outpost in the Whelan wet gas field, was testing in several lower zones before trying at the 6840-foot level at which it has shown for a wet gasser in the field's regular Rodessa zone producing level.

Bert Fields' wildcat, J. M. Furrh 1, L. Womack Survey, 4½ miles south of Waskom, was reported drilling at 6245 feet, but may have cemented casing for production test. The well is drilling tight.

Marion County: Magnolia Petroleum Company's Orr 1, Fowler Survey, southwest of Avenger, is drilling below 8989 feet. It will go to 10,000 feet or deeper before plugging back for production test.

Shelby County: Humble Oil & Refining Company's Pickering Lumber Company 1, Francois Survey, discontinued drilling because of stuck drill pipe at 12,221 feet, and plugged back to 8505 feet in the Travis Peak where porosity with indication of gas production has been reported.

☆ South Central Texas

Gas-Condensate Discovery Registered Near Pleasanton

New gas-condensate discovery made near Pleasanton; Tanglewood wildcat reaming hole to 6918 feet; shallow test planned for Caldwell County.

Atascosa County: Quintana Petroleum Company's O. Muil 1, wildcat 11 miles southeast of Pleasanton, was deepened and tested in the upper Edwards lime for a gas-condensate discovery. The well gauged 3½ million cubic feet of gas and an estimated 100 barrels of 48-gravity condensate daily at 2000 pounds tubing pressure through a ¼-inch choke from an open hole which bottomed at 9105 feet. The well had been deepened from its former depth of 8965 feet and acidized. Five and one half inch casing was set at 8836 feet.

Lee County: Humble Oil & Refining Company's Geo. Vick et al 1, wildcat in the Tanglewood area, drilled to 6918 feet in hard lime and shale, and was last reported reaming the hole. A good test was made at 6060-75 feet where a million cubic feet of gas per day and a trace of oil flowed through a 3/16-inch choke with tubing pressure 1725 pounds.

Caldwell County: O. W. Killam has staked a shallow test 5 miles south of the Dale field in a 160.5-acre lease on the Jos. Burleson Survey. It is the Minnie Marshal 1, for 2000 feet.

W. F. Glenn of Tyler located a test on a 50-acre tract 5 miles northeast of the Minerva-Rockdale field and 2½ miles east of Minerva.

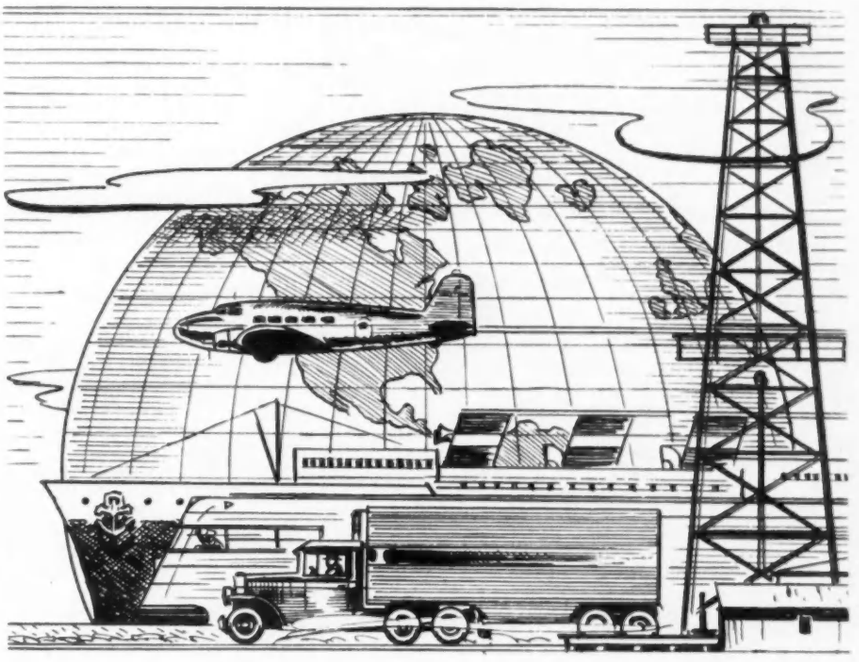
Clyde Lane's A. W. Jelley 1, new wildcat, is located on an 86-acre tract and is 2260 feet from the northwest line and 330 feet from the southwest line of the J. B. Gray Survey, Abstract 116.

Kansas Allowable Set

Kansas Corporation Commission fixed the state's daily oil production for February at 255,000 barrels, the same as for January. The figure includes allocations of 5600 barrels a day for condensate and natural gas, 74,243 barrels of crude daily for minimum or unprorated pools and 191,608 barrels a day for prorated pools.

Oklahoma Allowable Set

Oklahoma's daily oil production for February was fixed at 388,000 barrels by the Oklahoma Corporation Commission, 2000 barrels less than the daily rate for January but 20,000 barrels more than that indicated as demand by the Bureau of Mines. Production in the West Edmond Hunton lime zone was pegged at 80,000 barrels per day but with well allowables cut to 128 barrels per day. Few changes were made in field allocations with the Cheyarha field of Seminole County added to the restricted list and its quota set at 6500 barrels oil daily.



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☆ Southwest Texas

Starr County La Reforma Area Is Given New Pay Sand

New pay sand discovered in La Reforma area in Starr County; more wildcats located in Southwest Texas counties.

Starr County: Baldridge & King's A. Guerra Estate 1, new test in the La Reforma area, in Block 8, share 20 of the Santa Cruz Grant, and 935 feet southeast of the No. 1 well, brought in a new pay sand for the field when initial tests from perforations at 6145-58 feet flowed several barrels of oil per hour. Total depth is 6986 feet with 5½-inch pipe set on bottom. The No. 1 well logged a gas-condensate show at 5980-94 feet.

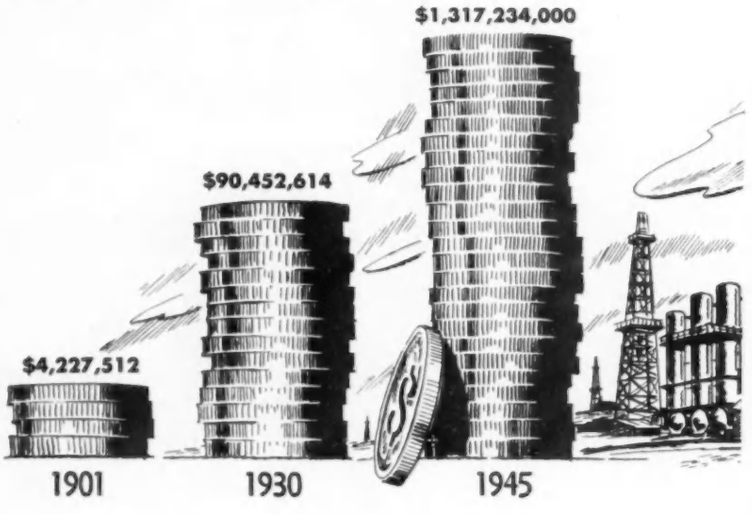
Sun Oil Company's G. G. de Garcia 3, deep test for the Yturria area in Porcion 98 and 467 feet from the west line of the porcion, is scheduled for 10,000 feet.

Continental Oil Company has staked M. M. Garcia 1-H on a 231.79-acre lease in Porcion 93 in the Boyle field, and proposes to drill to a total depth of 4500 feet.

Webb County: Sun Oil Company's Isaac Hirsch et al 2, wildcat about 26 miles northeast of Laredo, set 9 5/8-inch protective pipe at 4876 feet and is drilling below 5300 feet. This test is scheduled for 7500 feet.

Duval County: Henshaw Brothers have located the C. L. Palacios 2, an east offset test to the Company's C. L. Palacios 1, which set 5½-inch casing at 5765 feet and is prepared to make production tests. The new well, scheduled for 5900 feet, is on a 421-acre lease, Tract 36, Share 5, of the San Pedro de Charco Redondo Grant.

Jim Hogg County: Ralph E. Fair's San Juana Garcia Guardian 1, in the Jose Marcelo Ynojosa Survey A-367, 11 miles east of Hebbronville, set surface casing and is preparing to drill to a proposed depth of 5500 feet.



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☆ Lower Texas Coast

New Gas-Condensate Pay Sand Discovered at Los Indios

New gas-condensate pay sand discovered at Los Indios; oil show reported from Slick zone in Goliad wildcat; series of squeeze jobs planned for Tuleta area wildcat; gas-lift test made on Bee County well.

Hidalgo County: Baldridge & King's W. L. Goldston 2, new gas-condensate pay discovery in the Los Indios area, was completed and gauged for 2,900,000 cubic feet of gas and 75 barrels of condensate per day on a ½-inch choke from perforations at 6030-58 feet with tubing flow pressure at 2200 pounds. Shut-in tubing pressure was 2465 pounds. On an open flow test previously, an estimated 13,300,000 cubic feet of gas flowed daily. The well is 8449 feet deep.

Goliad County: Jay Simmon's Poehler 1, wildcat 6 miles southwest of Weesache in the Jacob Fifer Survey, was reporter to have made a show of oil and gas from cores taken in the Slick zone. Total depth of the well was last reported at 8014 feet, and topped the Pettus at 4537 feet. Proposed depth of this Wilcox test is 8400 feet.

Bee County: Mills Bennett's Martha Berger et al 1, wildcat 2 miles southwest of Tuleta, prepared to make the first of a series of squeeze jobs behind a 5-inch liner before attempting production tests in the upper and lower Wilcox sands. Gas-condensate showed in tests made in the Slick and Luling sands before the liner was set, and the well tried to blow out from the Slick sand. The first squeeze job will be made above and below the lower Wilcox at 8475-90 feet, followed by squeezing above and below the upper Wilcox at 8600-06 feet, with similar squeeze jobs on the Luling and Slick sands.

Blanco Oil Company & Buchanan's C. A. Henderson et al 3, in the Burnell-Wilcox area of the R. C. Ballard survey 107, gauged 60 barrels of oil per day on a gas-lift test from perforations at 3501-11 feet. The same company set 10¾-inch surface pipe at 682 feet, and is drilling in Henderson Estate 4, 629 feet east and 200 feet north of No. 3.

Storm Chokes Ordered

Effective March 15, all flowing wells with a surface pressure of more than 100 pounds and in certain locations shall be equipped with storm chokes, the state conservation department of Louisiana has ruled. Purpose of the order, the department advised, is to conserve natural gas resources, prevent fires and blowouts and to prevent damage to life and property.

☆Upper Texas Coast

North Thompson Production Extended 2100 Feet North

North Thompson production extended 2100 feet north; flank test of old Nash Dome gauges good production from deep sand; extension in Needville area completed as gas well; Colorado County wildcat cores for pay sand.

Fort Bend County: T. S. Loffland's Annie E. Williams et al 1, 2100 feet north of production in the North Thompson field and in the Thos. Barnett Survey, was completed for a potential of 113 barrels of 36.1-gravity pipe line oil daily through ⅛-inch choke from perforations at 7954-59 feet. Total depth of the well was 8154 feet with 7-inch casing set at 8007 feet. Tubing pressure was 790 pounds and casing pressure 1010 pounds, with a gas-oil ratio of 454/1.

W. L. Goldston's J. F. Kulcak 1, extension test 2700 feet north of production at Needville and in the Robert Hodge Survey, was completed as a gas well with a potential of 3½ to 4 million cubic feet of gas daily through a ¼-inch choke under 2000 pounds tubing pressure. Production is from perforations at 5970-90 feet, with deeper tests from perforations at 6422-24 feet gauging 25 barrels of 27.5-gravity oil daily through an ⅛-inch choke with 1750 pounds tubing pressure and a gas-oil ratio of 12,000/1.

Danciger Oil & Refining Company's Theodor Meier 2, second deep test on the north flank of the old Nash Dome and west offset to the Meier 1, which opened this new deep pay last year, was reported flowing at the rate of 50 barrels an hour through a 5/32-inch choke under 1400 pounds tubing pressure with a gas-oil ratio of 26,000/1. Production is from the upper Frio zone with perforations at 5851-64 feet. Total depth was 6010 feet and 7-inch casing was set at 5966 feet.

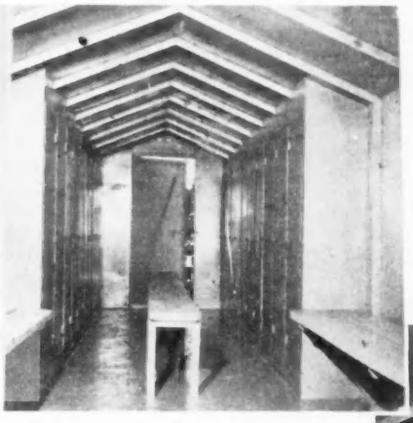
Danciger's deep pay discovery well, the Theodor Meier 1, was squeezed and reperforated at 5850-60 feet after making water in the old perforations at 5865-75 feet. On a 30-hour drill-stem test, the well averaged 100 barrels of pipe line oil daily through an ⅛-inch choke with a gas-oil ratio of 400/1. Total depth was 5892 feet.

Brazoria County: Stanolind Oil & Gas Company's Houston Farms Development Company 1-B, deep test in the Stephen F. Austin 1¾ League, 3168 feet northwest of the number 1 well, was completed for a potential of 108 barrels of 40.6-gravity condensate daily through 180 perforations at 11,430-60 feet. Tubing pressure of 2700 pounds was gauged, using a ¼-inch choke, with a gas-oil ratio of 26,850/1.

Matagorda County: Stanolind's First National Bank of Bay City 1, was completed for 62 barrels of 42-gravity oil daily with a gas-oil ratio of 71,900/1. Production is from 24 perforations at 10,380-84 feet and 190 perforations at 10,330-370 feet. Tubing pressure was gauged at 3650 pounds and casing pressure at 3750 pounds.

Sun Oil Company's R. B. Trull 1, confirmation test for the Midfields discovery well, located 2087 feet northeast of the producer in the I&GN Survey, set 13⅜-inch conductor pipe at 107 feet

RIG FURNITURE . . .



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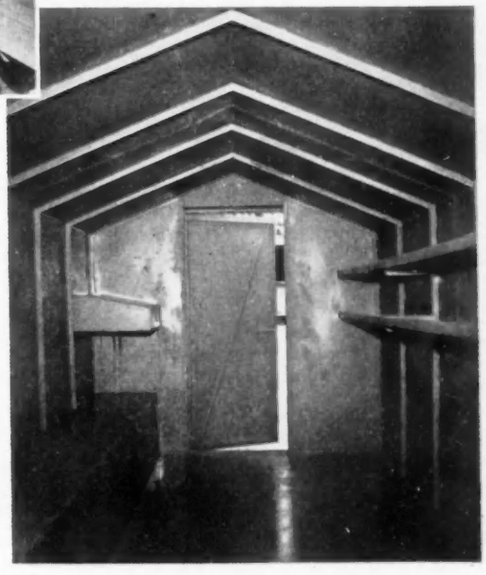
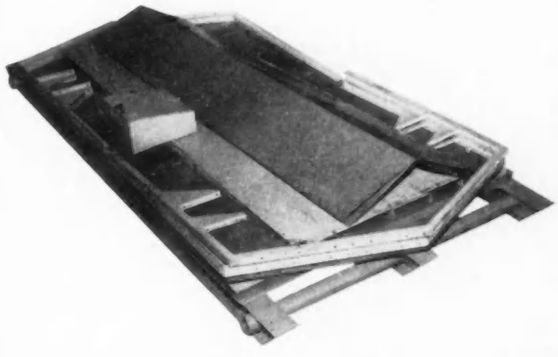


ABOVE: Interior of our CHANGE-LOCKER house, which has twenty 14" by 18" individual lockers. In addition to the 15' bench between the double bank of lockers, there are two additional 5' benches. This house is 24' long, 7' wide, with doors at each end. It is all-steel, all-welded, mounted on three 6" H beam skids with four 4" O.D. pipe cross braces. Walls and roof are 14 gauge steel, floor 3/16" steel. Electrical wiring inlets are provided and conduit with light and plug receptacles will be installed at slight additional cost.



EXPORT TYPE TOOL HOUSE: This bolted house is the same size as the all-welded type. It is all steel. All sections are match marked for easy erection. House is shown dis-assembled, ready for crating.
Weight crated: 5770 pounds.
Crate dimensions: 34" x 97" x 174"

ABOVE: Interior of the 7' by 12' all-steel, all-welded tool house. Roof and walls are 14 gauge sheet metal; floor 3/16" steel plate. Roof plates are over-lapped 4" at gable, doubling strength at this point. House is mounted on three 6" H beam skids with 4" O.D. cross braces. An 18" by 18" steel tool box is built-in along one side of the house. On opposite side are two 12" partitioned shelves. Driller's knowledge box is built in one end. Electrical wiring inlets are provided, and conduit wiring can be installed at slight additional cost.

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and was drilling plug from 9⅝-inch surface casing set at 1820 feet.

Trinity County: American Liberty Oil Company's Houston County Timber Company 1, recently plugged wildcat test, reports interesting formation data taken from the Edwards lime, and may lead to another test in the same area. One drill-stem test at 8080-8343 feet made a good gas blow and 1350 feet of gas-cut mud was recovered, while a second test at 8080-255 feet recovered 650 feet of gas-cut mud and 2700 feet of gas-cut salt water. A third test was attempted but abandoned when the packer failed. Total depth was 8343 feet.

Colorado County: The Superior Oil Company's Mrs. Myra S. Pryor 2-A, southwest outpost test in the Altair area in the BBB&C Survey, 1810 feet southwest of the number 1-A well, cemented 7-inch production casing on bottom at 8475 feet.

Texas Production Company & Noranda Oil Company's Earline Landig 1, wildcat extension test 5750 feet northeast of Cities Service's Schobel Columbus 1, discovery well in the James Cummins Survey, Abstract 13, made a 15-minute drill-stem test from 7875-95 feet through ½-inch choke and recovered 1380 feet of oil and 180 feet of salt water. An electric log was taken to 8115 feet for correlation, and the operators are coring in an attempt to pick up the producing sand which appeared in the discovery well at 8100 feet. Slight shows of oil were made in a sand tested at 7312 feet.

Jefferson County: Sun's Gilbert Estate 2, wildcat test in the Sara Miles Survey and 8400 feet south of the No. 1 well which brought in the Gilbert Ranch field, was last reported attempting to prevent the well from blowing out while pulling drill pipe which became stuck after the well started blowing at 9056 feet. The discovery well was completed as a gas-condensate producer from perforations at 8675-90 feet.

☆South Louisiana

Magnolia's Pinegrove Area Discovery Well Is Gauged

Pinegrove area discovery gauge; Humble continues attempts at production test in Little Temple area wildcat; protective pipe set through salt water sand in Cameron Parish wildcat; confirmation test located for Bon Air discovery well.

Beauregard Parish: Magnolia Petroleum Company's Lutcher Moore Lumber Company 2-C, new field discovery well 4 miles east of the West Pinegrove field, in 22-5s-11w, made an initial potential of 136 barrels of pipe line oil daily through a 7/64-inch choke from perforations in the Cockfield at 7638-42 feet, with a tubing pressure of 1100 pounds. Gas-oil ratio was 746/1. Seven-inch pipe was set at 7700 feet with the bottom at 11,618 feet.

LaFourche Parish: Humble Oil & Refining Company's Louisiana Delta Farms Company 1, wildcat in the Little Temple prospect, 19-17s-23e, is trying for a production test in 30 feet of good oil sand topped at 10,600 feet after setting 5½-inch pipe at 10,735 feet. Perforations were made at 10,631-36 feet with 45 shots and a casing packer was run on the tubing, but failed to hold. Operators drilled out the packer and are preparing to set another for a production test. Total depth was 12,007 feet.

Cameron Parish: Continental Oil Company and the Yegua Corporation's joint interest well, the Cameron Parish School Board 1, 16-15s-14w, in the Johnson's Bayou area, set 7-inch protective pipe at 8619 feet after drilling to a total depth of 8628 feet. An electric log to bottom indicated salt water sands at 8396-8450 feet. The well is scheduled for 9500 feet.

Allen Parish: Humble's Mrs. J. A. Bel Estate 1-B, wildcat in the center of NW NE 33-5s-5w, Oberlin area, continued to test with no commercial shows made. Tests are being tried from perforations at 12,654-62 feet. A production test at 12,107-113 feet showed brackish water with a slight show of oil and gas.

Evangeline Parish: Tide Water Associated Oil Company's Haas-Miller Unit 1, 22-4s-1w, at Reddell, was completed for a potential of 243.6 barrels of 52.1-gravity condensate daily through a ¼-inch choke with 2600 pounds flowing pressure. Seven-inch casing was set at 9957 feet with 36 perforations made at 9912-21 feet.

Magnolia Petroleum Company has staked 2 new tests in the recently discovered Mamou area. Brunet-Granger Unit 1 is ¾ mile southeast of the discovery well, the J. B. Morein 1, and in the center of SE SE 5-5s-1e. The M. G. V. Fontenot (O. L. Gillory) 1, a northwest offset to the discovery well, is in the center of SE NE 6-5s-1e on a 54-acre tract. Both tests will go to 13,000 feet. Production from the discovery well came from perforations at 11,519-34 feet and flowed 208 barrels on a 24-hour test through an 8/64-inch choke. The Cockfield was topped at 8940 feet and the Wilcox topped at 11,510 feet.

Jeff Davis Parish: Sohio Petroleum Company has located Claudius Fontenot et al 1-V to make a confirmation test of the Bon Air discovery well completed last December. The new well is in the center of NW SW 15-10s-6w, a west offset to the Fontenot 1 which brought in the new producing area and is scheduled to 10,000 feet.

Rapides Parish: Union Producing Company's Belgard 1, wildcat in NE NW 14-4n-3e, Big Island area, ran an electric log after drilling to 9802 feet. Sidewall samples indicated slight shows of oil in the Tuscaloosa sand in the bottom 20 feet of the hole. Operators cored solid from 9802-55 feet, and recovered sand, hard lime and shale with no shows reported. A total depth of 11,500 feet is scheduled.

Seismograph Crew Working on Pittsburgh Firm's Holdings

Mount Vernon Car Manufacturing Company of Pittsburgh has a seismograph crew working on its leased and fee lands in Smith and Covington counties, Mississippi.

The work is being done by the Seismograph Service Company under the direction of A. L. Bowden, manager of the land department for Mount Vernon.

The block of 30,000 acres of which about ½ is in fee and the remainder leased, is in townships 10 north, range 16 west and 10 north, range 15 west, of Smith County, and townships 9 north, range 16 west, and 9 north, range 15 west, of Covington County.

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Failures Lessen Activity; Richland Has New Project

Wildcat failures in Caddo, Franklin and Richland Parishes temporarily decrease activity; interesting new wildcat test starting in Richland Parish.

Bossier Parish: Barnsdall Oil Company-Sohio Petroleum Company's wildcat, Carter-Burton 1, NW NW 26-23n-13w, Benton area, continues drilling below 8272 feet, after showings reported in the Pettit and Travis Peak horizons. The company's Crystal Oil Refining Company 1, SE SW 28-21n-11w, is below 6935 feet, after plugging back, and is nearing the Cotton Valley.

H. C. Owens' Skidmore 1, wildcat, NE SE 1-16n-11w, squeezed perforations at 5348-50 feet after testing salt water, and will reperforate higher in the Pettit where good porosity was indicated. Top of Pettit was 5323 feet.

Caddo Parish: Union Producing Company's wildcat Noel Estate A-1, 11-9n-16w, Mooringsport area, drilled gray sand and lime at 8825 feet after setting 7-inch casing at 8526 feet.

J. R. Querbes et al's A. J. Mitchell Estate 1, NW NW 8-18n-16w, wildcat south of Longwood production, which was reported pumping oil from the Pettit, will squeeze perforations at 5647-50 feet and complete in the Moneyham. Big West Drilling Company's Cecelia L. Ellerbe 1, SE NE 27-15n-12w wildcat in the Caspiana area, was abandoned after drilling to 9608 feet in the Cotton Valley. A test indicated no production possibilities.

Natchitoches Parish: Magnolia Petroleum's Union Saw Mill 1, wildcat in 7-6n-6w, is drilling in shale below 6777 feet. J. B. Blanchard's A. C. Foster Heirs 1, 2-13-8w, was drilling at 1034 feet in the new Ashland field.

Webster Parish: Hunt Oil Company's S. G. Haynes 1, SE SE 11-23n-10w, North Shongaloo area, set first string of casing at 517 feet. J. S. Rushing's Cook Unit 1, wildcat, was tested at 5955 feet, and is now drilling at 5700 feet in shale and lime.

Claiborne Parish: Blackwell Oil & Gas Company's Waller-Sherman 2, 23-23n-8w, E. Haynesville field, was awaiting orders after testing a small amount of oil from 8920-83 feet. Production in this field comes from 5195-5205 feet.

Sabine Parish: Union Producing Company's Louisiana Long Leaf Lumber Company 1, 29-8n-11w, a wildcat, is rigging up to drill to 10,000 feet. T. L. James and Company's Brown 1, wildcat in NE SW 6-9n-12w, was in hard lime and shale at 6010 feet.

Panhandle Refining Company also is starting work on E. E. Meshell 1, 22-7n-14w, 5000-foot wildcat test near Blue Lake; and L. & L. Oil Company is getting Pelican State Bank and Burr 1, 25-10n-13w, under way. The test is east of Converse field, and will go to 3500 feet.

Richland Parish: R. T. Sellers' wildcat Dan McKay 1, 11-16n-7e, was abandoned after drilling to 3400 feet, Gulf Refining Company's A. J. Pitts 1, 19-17n-9e, in the Delhi field, was abandoned as dry at 4026 feet.

Big Chief Drilling Company is starting work on a 4800-foot wildcat 2 miles east of Delhi at George B. Franklin 1,

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7-17n-9e. Tuscaloosa and Paluxy sands are supposedly pinched out in this area and the test will attempt to discover Glen Rose production.

Franklin Parish: Big Chief Drilling Company abandoned its wildcat, J. T. Ingram 1, 4-13-6e, at 5680 feet.

Red River Parish: C. H. Tuttle's Fee 4, SE SW 17-13-10w, tested salt water with no show of oil from perforations at 872-930 feet. Total depth is 953 feet.

☆ Arkansas

Salem Church Distillate Area Given Oil Producer

Salem Church distillate area has first oil producer; Union wildcat goes on pump to open first lime production; Wesson field development continuing.

Union County: The Carter Oil Company et al's Powell C-137, NE 33-16s-18w, Salem Church field, on a 9-hour test flowed 139 to 159 barrels of 38.2-gravity oil on ¼-inch bottom and 10/64-inch top chokes from the Smackover at 7055-64 feet, total depth. Tubing pressure was 680 pounds, gas-oil ratio 533/1. It is the first oil well completed in this distillate area, discovered in 1944.

Placid Oil Company's Goode 1, NE NW 6-17s-13w, has been put on the pump. No gauge is available but the well has apparently opened first lime production in this area, at a depth of 1640 feet.

Miller County: G. Anthony et al's W. A. Smith 1, SE 24-15s-26w, wildcat northeast of Garland City field, is waiting on orders and probably will abandon at 4610 feet. No showings of oil or gas were indicated.

Dallas County: A new wildcat was staked by W. S. Poole et al, Southern Company-Sturgis Brothers 1, C SW SE NE 26-9s-16w, and scheduled to go from Upper Cretaceous to Paleozoic at 2300 feet.

Ouachita County: Another producer was indicated for the developing Wesson field as McAlester Fuel Company prepared to perforate in the Travis Peak at C. M. Wesson 2-B C NE SE NW 24-15s-19w. Sands showing oil were logged at 3298-3322, 3425-52, and 3488-3502 feet. The well is bottomed at 3951 feet.

Sinclair Cites Objections To Anglo-American Pact

The revised Anglo-American Petroleum Agreement, now pending before the Senate is not in the national interest nor in the interest of the petroleum industry, in the opinion of Harry F. Sinclair, president, Sinclair Oil Corporation. In his mind the agreement is subject to many of the same objections voiced against the original document which objections ultimately led to its withdrawal from the Senate.

"If the purposes of the treaty are effectuated," says Sinclair, "I believe it will mean the opening of our shores to a flood of foreign oil; it will be disastrous to the large independent section of the oil industry; it will bring us in competition with cheaply-produced foreign oil and will have harmful results for American labor as well as American capital. If the proposed treaty is merely a gesture and no serious effort is to be made to carry out its stated purposes, then of course there is no good reason for its existence. When and if we need foreign oil we shall be able to get it without this or any treaty."

Exception is taken by Sinclair to the statement that no provision in the agreement is applicable to our domestic petroleum operations. Under subdivision (c) of Article II, he thinks the treaty obligates Congress to enact legislation to regulate and control the domestic petroleum industry within the United States. Subdivision (b) of Article II, he believes, would require repeal or modification of the Federal Leasing Act so as to grant aliens equal rights with United States citizens in exploration and development of our public lands.

☆ Mississippi

Cranfield Extension Try Reportedly Has Saturation

Cranfield eastern extension attempt reported to have cored good section of saturated sand; Adams County wildcat readying for production test; shows reported in Chickasaw prospect.

Franklin County: The California Company's Homochitto Lumber Company 1, 27-7n-1e, which will extend the Cranfield field a mile east across the county line when successfully completed, has been unofficially reported to have cored a 28-foot section of saturated sand in the Massive zone at 10,370 feet. Seven-inch casing has been run to that depth and tests of the section will be continued. Gulf Refining Company's Ella G. Lees 3, SWc 32-7n-1w, also attempting to extend the field, is drilling below 8300 feet in shale. No shows have been reported.

Adams County: Phillips Petroleum Company's Davey 1, NE NW 46-8n-2w, wildcat 8 miles northeast of Natchez, is reported to have bottomed hole at 10,512 feet and run casing for a production test. The Massive sand zone was reportedly topped at 10,003 feet and it seems certain the well will make a commercial producer. Roeser & Pendleton-Sohio Petroleum Company's Baker-Maier 1, NWc 34-6n-2w, assured producer about 8 miles southeast of Natchez, continues to experience difficulty with salt water. In a drill-stem test at 10,542-547 feet with packer at 10,505 feet opposite the Massive sand zone, the well flowed 361 barrels of fluid in 20½ hours, of which approximately 25 percent was 39.2-gravity oil. Perforations were squeezed off and intentions are to reperforate at a point slightly higher in the section and test. The California Company has rigged up for National Gasoline of Louisiana 14, 52-7n-1w, sister well of the company's National Gasoline 1, discovery well in Cranfield. The latter was bottomed in the Massive sand, but was completed as a producer in the Wilcox. Perforations opposite this horizon will be squeezed off, and the well will be used as a reinjection point as part of the company's plans to reintroduce waste gas into the ground. Later it is planned to construct a recycling plant to utilize the gas. Humble Oil & Refining Company's Mrs. C. L. S. McKittrick 1, SEc 12-6n-3w. Carthage Point field, continues to test after developing a flow of 705,000 cubic feet of gas and 90 barrels of condensate a day from the Massive sand at 10,280-83 feet. Gas-oil ratio was 7834/1.

Jefferson County: Humble's M. R. Smith B-1, 16-9n-1e, Fayette field, has been completed for a gasser with an initial flow of 1,785,000 cubic feet of gas and 120 barrels of 54.8-gravity condensate per day. casing was perforated at 9745-52 feet opposite the Massive sand zone and swabbed in. Humble's S. Hirsch Co. 1, 15-9n-1e, Fayette, also appears to be a certain commercial producer from the Massive sands and production tests are now in progress.

Lincoln County: Sun Oil Company's Case Heirs 1, SW SE 8-7n-7e, Brookhaven field, has set 5½-inch casing in preparation for tests of the Basal Tusca-

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loosa horizon at 10,367 feet. Cores taken from the zone had previously recovered a thin section of saturated sand while a subsequent drill-stem test recovered water cushion and 30 feet of mud cut with oil. Roeser & Pendleton is also planning a test of the field and has derrick erected for its School Land 1, NW NW 16-7n-7e.

Chickasaw County: A. W. Hutchings' W. C. Stone Jr. 1, SE SW 29-12s-5e, wildcat in the northeastern part of the state, is preparing to set casing after testing shows of gas and oil from the 2400-foot zone. In a drill-stem test at 2423-2506 feet the well recovered water and mud slightly cut with gas and oil. Cores taken previously from the same section recovered slight shows of oil. This well will be watched with interest as this area in the state is favorably regarded by geologists, but has never been worked to any great extent. If the Stone yields anything encouraging it will set the stage for a new field of development far removed from any of the present workings.

Warren County: William Helis' Anderson-Tully Lumber Company 1, NEc 40-14n-3e, wildcat, has been abandoned in the Comanchean at 9510 feet with no shows. The Wilcox, Eutaw, and Tuscaloosa horizons were tested.

Alabama

Newman Oil Company's wildcat Lam 1, C SW NW 10-4s-1e, Madison County, is below 757 feet. In Walker County, J. H. Deason's De Bardelaben 1, SE NW 6-14s-5w, was drilling at 1370 feet.

Georgia

Kerr-McGee Oil Industries' wildcat Cecil Pate 1, C SE Lot 144, Thirteenth Land District, Crisp County, is drilling below 4225 feet.

Florida

Sun Oil Company's Crapp's 1, SW NE 25-6s-12e, Lafayette County, wildcat, has been abandoned at 4133 feet. A drill-stem test at 3300-20 feet recovered only mud and salt water, and subsequent cores at lower levels recovered nothing.

Gilchrist County: Sun is moving rig from Cripps 1 to a new wildcat, Otto Adams 1, SW SW 15-9s-15e.

Hernando County: The Ohio Oil Company's Hernasco Corporation 1, NWc 19-23s-18e, is drilling below 1875 feet with no shows reported.

Monroe County: O. D. Robinson's State 1, NEc NW 29-59s-40e, wildcat, is drilling below 9580 feet with no shows reported after restoring circulation.

Gulf Refining Company's State of Florida 1, SWc 2-67s-29e, wildcat, was still at 3177 feet, fighting a cave.

Collier County: Humble Oil & Refining's Gulf Coast Realty Company 6, SW NE 19-48s-30e, headed for deeper horizons in the Sunniland field, and is shut down for repairs after reaching 9188 feet. No shows have been reported.

Liberty County: Another wildcat location was made by The Pure Oil Company at Neal Lumber Company 1, 33-2s-8w.

M-B-K Stock Sold

The Big Chief Drilling Company and the Kerr-McGee Oil Industries, Inc., both of Oklahoma City, have purchased 66⅔ shares of the stock of the M-B-K Drilling Company at an administrator's sale in Tulsa. In addition to 13 rotary drilling rigs the M-B-K Drilling Company owns approximately 1000 barrels a day production and valuable leases in Texas. Roeser & Pendleton, Inc., Fort

SOUTH TEXAS COMMERCIAL NATIONAL BANK

OF HOUSTON

Condensed Statement of Condition at the Close of Business December 31, 1945

RESOURCES

Loans and Discounts		$ 13,012,763.21
Customers' Liability Letters of Credit		201,483.00
U. S. Obligations*		72,386,000.00
(All carried at par or less)		
Investment Bonds		4,481,500.00
(All carried at par or less)		
Federal Reserve Bank Stock		120,000.00
Banking House		100,000.00
Vaults, Furniture and Fixtures		1.00
Other Real Estate		1.00
Stocks, Securities, etc.		1.00
Cash and Due from Banks		37,557,517.29
Total		$127,859,266.50

LIABILITIES

Capital Stock		$ 2,000,000.00
Surplus Fund		2,000,000.00
Undivided Profits, net		600,000.00
Reserved for Interest, Discount and Taxes		430,097.70
Reserved for F. D. I. C. Assessments		40,748.27
Dividends Declared but not yet payable		240,000.00
Letters of Credit		201,483.00
Deposits, Individual	$61,696,108.95	
Deposits, U. S. Government	24,307,297.13	
Deposits, Bank	36,343,531.45	122,346,937.53
Total		$127,859,266.50

*($32,105,020.55 Book Value of which are pledged to secure Deposits of Public Funds and for Other Purposes Required or Permitted by Law.)

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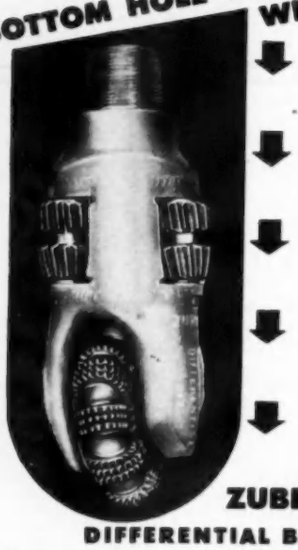

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Worth, holds a short option on the remaining shares of the company and it is understood that if the option is not exercised the stock will be taken by the Big Chief and Kerr-McGee interests.

☆ Michigan

Two Wildcats Showing for Probable Commercial Wells

Two new wildcats showing for probable commercial wells to boost the year's new field prospects to four.

Bay County: Sohio Petroleum Company and C. W. Talbot's State 1, SE NE NE 1-17n-3e, Forest Township, showed 450 feet of oil in 24 hours from Dundee at 2954-59 feet. Dundee was logged at 2836 feet and hole bottomed at 2970 feet to acidize. The outpost is 6 miles south of Adams field.

Isabella County: Chartiers Oil Company's Diehl 1, N½ SW NW 29-15n-6w, Sherman Township, logged Traverse lime at 3190 feet and showed gas/oil pay at 3280-93 feet where drilling was suspended to set and cement 5-inch casing at 3275 feet. The well gauged 1,900,000 feet of gas and averaged 14 barrels oil on 3-day test. Chartier's wildcat is 1¼ miles northwest of the old Sherman field, and geological information points to new closure rather than extension of the old field.

Genesee County: Fred Riddel's Clark 1, NE SE NW 33-10n-7e, Arbela Township wildcat, was estimated good for 20 to 30 barrels of oil, swab and flow, after acid treatment in the Dundee at 2551-54 feet. Retreated, it showed up to 12 barrels of oil per hour for a short period and went dead with pumping probable. The test is 6 miles southeast of the old Birch Run pool.

☆ Illinois Basin

Production Attempt Made In Project Near Mattoon

Test on edge of city of Mattoon makes production test in Devonian lime; Thomas L. Smith's test is disappointment; Wayne County strike completed; prospective extension of Belle River pool swabs 8 barrels in 21 hours.

Coles County: National Consumers' Herkimer 3, SE NW NE 11-12n-7e, at the north edge of the city of Mattoon, has set casing below 3100 feet for a production test of Devonian lime. Only 2 other Devonian tests have been drilled in the area and those more than 5 years ago and approximately 4 miles south of Herkimer 3. Decision to set pipe was made after an electric log and a core study of the formation. Promising saturation was found in an unidentified horizon above the Devonian lime and may be tested later.

Disappointing was Thomas L. Smith's Breese 3, NW NE NW 23-11n-7e, ½ mile south and east of production. In highly regarded territory, the well was abandoned as dry at 2039 feet without shows in the Cypress or Rosiclare. C. G. Davis' Carlyle 1, SW SW NW 11-11n-7e, which linked production approximately 1 mile apart, is being placed on pump after swabbing approximately 380 barrels of oil in 24 hours from Rosiclare sand from pay break at 1973-83 feet.

George and Wrather's Tivnen 1, NW SW SW 26-13n-7e, northeast of production, is running a third squeeze job in an attempt to shut off salt water in the Rosiclare sand.

Wayne County: Olson Drilling Company's Wilson 1, SE SE NE 36-2n-8e, 2 miles east of production in the Clay City consolidated pool, has been completed in O'Hara lime at 3031-36 feet and Rosiclare at 3056-59 feet for initial production of 700 barrels of oil in 7 hours swabbing and flowing after 5000 gallons of acid.

Jefferson County: Gulf Refining Company's Nathan 2 NE NW NW 27-3s-4e, swabbed 8 barrels of oil in 21 hours as a prospective extension of the Belle River pool Pay was encountered at 3091 feet.

Hamilton County: Dale Hopkins Johnson 1, NE SE NE 24-6s-7e, southeast of production in the Dale pool, has set casing for production test of Aux Vases sand and McClosky lime with hole bottomed at 3408 feet.

Christian County: John Wrather was moving in cable tools to drill plug for test of Devonian lime at Thompson 1, SE SE SE 15-15n-2w. Pay break was at 1971-77 feet with hole bottomed at 1997 feet.

Henderson County: Otis Blankenburg has set casing at Vogel 1, 12-P-23, 1½ miles southeast of the Henderson pool for tests of McClosky breaks at 2470-2555 feet. Casing was set at 2555 feet and tests will be made through casing perforations.

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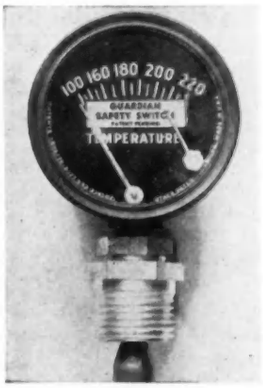

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☆ California

Eocene Showings Are Tested By Superior in Cymric Field

Spotlight continues on Cymric field with Superior testing Eocene showings below existing production; Amerada tests productive possibilities of Schist formation in Ant Hill field; Wilmington well reported flowing 1325 barrels from Conglomerate zone; Shell setting casing for test of showings in Dominguez wildcat, but sands are tight; test for Schist production in Torrance field apparently unsuccessful as well is plugged back to test Ranger zone.

Kern County: The Superior Oil Company has drilled one of its Cymric wells, Woody 67-22 in 22-29s-21e, to the Eocene, about 1000 feet below the productive Oceanic sand. Eocene showings in the lower part of the hole were tested, but no information about the outcome is available. Total depth is 5526 feet. An interval between 4480-4580 feet has been perforated to test showings in the Oceanic sand. Independent Exploration Company will soon complete Oceanic 2, also in Sect. 22. Oceanic sand was topped at 4832 feet. Operator is presently testing an interval of Oceanic sand at 4892-4938 feet. In Sect. 21 Superior's Midway-Premier 55-21 was reported flowing 4 barrels per hour. Total depth is 2399 feet. There are 11 active drilling projects in the Cymric field.

Amerada Petroleum Corporation has drilled a well in the Ant Hill field 33 feet into the Schist, topped at 4125. The well is Siegfus 1-22 in 22-29s-29e. Drilling is proceeding. Shell has completed its first well in the Ant Hill field on its Parker Fee property. Well 88-16 in 16-29s-29e is pumping 178 barrels of 13.5-gravity oil. Total depth is 2518 feet with plug at 2425 feet. The well, a follow-up to a previous try which was wet, offsets Amerada production.

In the Oildale area Terry Oil Company's K.C.L. 1 in 18-29s-28e was preparing to test 20 feet of oil sand logged at approximately 2250 feet. Total depth is 2507 feet with 7-inch casing set at 2327 feet.

Miller and York's try for production in the Antelope area southwest of the Williams field has ended in failure. Theta 2-A in 12-28s-19e has been abandoned at 1063 feet in gray sand.

Monterey County: Bayside Development Company of Salinas, Calif., is preparing to resume work on a well abandoned some time ago by General Petroleum Corporation in the Moss Landing area. The well is Vierra 1 in 7-13s-2e. Hole was abandoned by General Petroleum at 5739 feet. Chanslor-Canfield Midway Oil Company's wildcat, Salanco 1 in 35-19s-7e, is drilling below 2530 feet.

Los Angeles County: Seaboard Oil Company has asked the Los Angeles Planning Commission for a zone variance to drill exploratory wells on the Hillcrest Country Club and Twentieth Century-Fox properties about 10 miles west of downtown Los Angeles. In the event of a discovery the operator agrees to pay the city 4 cents per barrel of oil produced.

Long Beach Harbor Development Company's Cedarholm Community 2 in the Wilmington field is reported flowing from the Conglomerate zone at a 1325-

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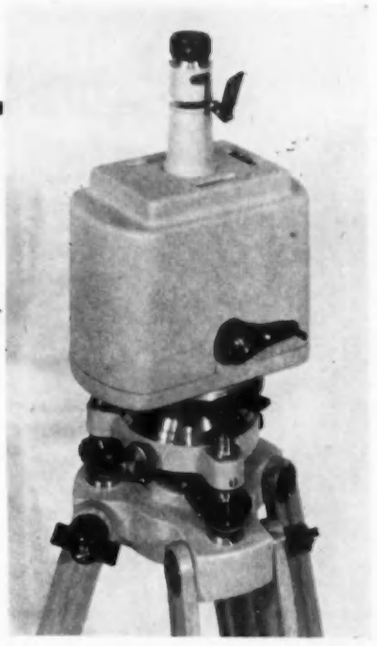
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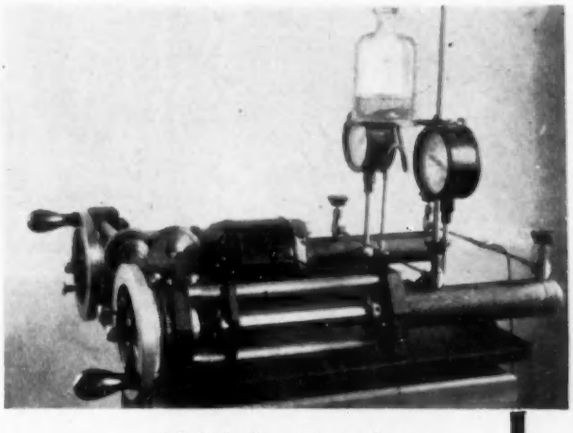
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barrel rate, 31-gravity oil, through a 20/64-inch choke. Depth is 6435 feet with the Schist reported to have tested wet.

Marine Exploration Company's State 1 in 11-5s-12w which is being slant-drilled under the ocean from a location on shore at Seal Beach is being drilled ahead below 7351 feet. A 6⅝-inch protection string was cemented at 5915 feet.

Shell is reaming its wildcat, Dominguez Estate 1 in 2-4s-13w, and will set casing for a test of showings. Sands are reported very tight. The well is bottomed at 10,478 feet.

Richfield Oil Corporation's Bandini wildcat in East Los Angeles, Union Pacific Unit 1, has been cleaned out to 8590 feet and a production test is scheduled. Two other active projects are Richfield's Vail 1 in 16-2s-12w, coring below 7750 feet, and Chanslor-Canfield Midway Oil Company's Bandini 1 in 21-2s-12w, drilling below 8900 feet.

Dumm Brothers-Olympic Refining Company, 16 in 29-1s-12w, is drilling below 2850 feet in shale and gray sand with oil showings on the ditch.

Superior's Torrance 66, a test for production from the Schist in the Torrance field, is plugging back to test the Ranger zone. Well was cored to 5732 feet in Schist with results withheld.

Orange County: Pacific Butte Mining Company is preparing to deepen Hampshire Oil Company's 1 near the Pacific Coast Highway and Hampshire St. Well will be deepened from 3500 to 6000 feet.

Compact Session Set

The Interstate Oil Compact Commission will hold its spring meeting in Tulsa April 11-13, according to an announcement by Gov. Robert S. Kerr of Oklahoma, chairman of the executive committee. In accepting the invitation to meet in Tulsa, Governor Kerr indicated that the spring meeting will be one of the most important in recent years as the commission plans to expand the activities of the compact group and these plans will be submitted for full discussion of the members.

Kansas Hearing Set

The Kansas Corporation Commission has set Feb. 25-26 as the date for hearing to determine the state's crude market demands for March and to fix allowables in prorated fields. The hearing will be held at 10 a. m., in Wichita.

☆ Canada

5000-Quart Shot Set Off In Turner Valley Well

The largest nitro-glycerine explosion in Canada's oil history was set off February 4 when 5000 quarts was exploded in Madison limestone at the 6973-foot Westflank 2 well in the heart of south Turner Valley. This was the initial test of Oilwell Reflow Limited's patented process for exploding nitro in the formation of depleted oil wells in contrast usual borehole shot. The experiment mechanically was good but the result will not be known until the hole is cleared probably several days. Fifty-four hundred pounds of glass marbles, cement, aluminum and rubber formed the equipment opposite the limestone at the time of the explosion and blasted as scheduled to bridge the hole at the top of the lime. The only surface evidence was a slight earth jar, kicking of water slug from the tubing and hoisting of the tubing some 18 inches.

The nitro was poured into 3-inch tubing, closed at the bottom by pressure valves. The bottom 300 feet of the tubing was aluminum containing a ¾-inch aluminum tube carrying 29 quarts of nitro and one ton of glass mables, the whole being cased in a ton of cement ¾-inch thick. A device to swab the nitro from the tubing follows the explosive into the tubing and this is followed by a 70-foot column destroyer to kill swabbed nitro after which a go-devil with an attached contact bomb is pushed down by the column of water. The weight opens the pressure valves, allowing nitro to pass into the formation. The destroyer passes through the shadow when the latter contacts the aluminum tube and permits the bomb, loaded with TNT, to contact the shadow and set off the explosion. Hercules Oilwell Shooting Company of California handled the experiment.

Anglo Canadian Oil Company, active Alberta independent, has taken up 483,000 acres of Crown oil and gas rights in the Notikewin River area on the northwestern Alberta plains, 40 miles north of Peace River. Far north of Alberta, sections are under development in the block traversed by Canol project highway, running north to Mackenzie River, thus making it readily accessible for geological and geophysical work. The Devonian is believed at 1800 to 2500 feet depths, indicating shallow lower Cretaceous or Devonian drilling on structures which might be outlined.

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PORTABILITY: Can easily be carried from one pipe section to another.

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CALIFORNIA WILDCATS

Kern County—Failures: Independent Explor. Co.'s Lambert Lands 2, 35-26s-27e, McVan area, Veddar 2913 feet, abnd gray sand 2945 ft.

Miller and York's Theta 2-A, 12-28s-19e, Antelope area, Pyramid Hills 997 ft, abnd gray sd 1063 ft.

Shell's U. C. 2, 3-25s-18e, Antelope area, abnd 1501 ft.

COLORADO WILDCATS

Weld County — Failure: Frontier-Phillips-Kerlyn-UP's Hankins 1, 22-5n-67w, Johnstown area, abnd 8350 ft.

FLORIDA WILDCAT

Lafayette County—Failure: Sun's Crapps 1, sw ne 25-6s-12e, abnd 4133 ft.

ILLINOIS WILDCATS

Clark County—Failure: C. R. Craft's Madlem 1, sw sw sw 29-9n-14w, abnd 2560 ft.

Clay County—Failures: J. J. Lynn's Hunley 1, se se nw 35-3n-7e, abnd 3131 ft.

W. W. Shaffer's Staats 1, se se se 23-5n-7e, abnd 2871 ft.

Clay County—Oil Discovery: N. V. Duncan s Leonard 1-A, se sw ne 2-4n-7e, Cyp sd 2554-74 ft, pump 145 bbls, td 3007 ft.

Coles County—Failures: Nation Oil Co. s Elliot 1, ne ne sw 27-12n-8e, abnd 1530 ft.

Nation Oil Co.'s Donnell 1, se se sw 34-13n-7e, abnd 2062 ft.

D. F. Wright's Taylor 1, ne ne ne 33-14n-10e, abnd 510 ft.

Madison County—Failure: E. A. Obering et al's Mosimann 1, nw se nw 28-5n-5w, abnd 1933 ft.

Richland County—Failure: Superior's Buckels 1, se se nw 13-2n-10e, abnd 3365 ft.

Shelby County—Failure: T. Blake Dirickson et al's Hazen 1, nw sw sw 12-11n-4e, abnd 2162 ft.

KANSAS WILDCATS

Butler County—Failure: J. E. Morris Steel 1, nw nw sw 26-25s-4e, Viola 2610 ft, abnd 2612 ft.

Gray County—Failure: Skelly's Hartnett 1, sec 8-25s-27w, Arb 5634 ft, abnd 5804 ft.

Leavenworth County—Oil Discovery: Charles E. Miller's Bankers Life 6, ne nw sw 3-10s-20e, flow 40 bbls, McLouth sd 1427-72 ft, td 1472 ft.

Woodson County—Failure: M. J. Trott et al's Hoffmaster 1, ne ne nw 30-25s-16e, abnd 2078 ft.

KANSAS OUTPOST

Finney County — Hugoton Gas Extension: Wood River Oil's Steckeljohn 1, nw nw se 6-26s-32w, flow 8 mln, Krider-Winfield 2607-39 ft, td 2668 ft.

NORTH LOUISIANA WILDCATS

Caddo Parish—Failure: Big West Drlg. Co.'s C. L. Ellerbe 1, 27-15n-12w, Travis Peak 6230 ft, Cotton Valley 8631 ft, abnd 9605 ft.

De Soto Parish—Failure: Spartan Drlg. Co.'s Thigpen 1, c ne nw 29-12n-11w, James 5260 ft, Travis Peak 6103 ft, Cotton Valley 8617 ft, abnd 9100 ft.

Franklin Parish — Oil Discovery: Gus K. Primos-C. W. Sharp's Butler 1, c sw nw 29-16n-8e, perf Paluxy 24 shots 3525-41 ft, pump 65 bbls 37.9-gr, td 3787 ft.

Richland Parish—Failure: Roy T. Sellars' Dan B. McKay 1, c sw sw se 11-16n-7e, abnd 3398 ft.

NORTH LOUISIANA NEW PAY TEST

Caddo Parish—Longwood Pettit Discovery: J. R. Querbes' E. T. Currie 1, c sw sw 20-19n-16w, perf 40 shots 5530-52 ft, acidized, flow 24.5 mln gas, rock press 2175 lbs, ¾-in, td 6200 ft.

MICHIGAN WILDCATS

Berrien County—Failure: Sewage Sanitation Co.'s City 1, ne se sw 20-4s-13w, abnd 895 ft.

Isabella County—Failure: C. W. Teater's Grewe 1, sw ne nw 14-14n-5w, Dundee 3680 ft, abnd 3705 ft.

Kent County—Failure: S. L. McCall's Peterson 1, ne se se 1-8n-11w, Traverse 2250 ft, abnd 2267 ft.

Livingston County—Failures: Alpha Oil Co.'s Itsell 1, w½ se se 5-2n-5e, abnd 371 ft.

Alpha Oil Co.'s Harris 1, ne se ne 25-3n-4e, abnd 1030 ft.

Montcalm County—Failures: Sohio's Tousley 1, nw nw ne 8-9n-5w, Dundee 3095 ft, abnd 3281 ft.

H. Eddie Bell's Eldridge 1, ne ne ne 21-10n-5w, Dundee 3188 ft, abnd 3254 ft.

Allegan Pipe & Supply Co.'s Davis 1, nw nw nw 36-10n-5w, Dundee 3150 ft, abnd 3261 ft.

Newaygo County — Failure: Wagenaar and Newman's Gauweler 1, ne sw se 2-12n-11w, abnd 3325 ft.

Osceola County — Failure: Sun & Carter's Johnson 1, c ne 25-17n-9w, abnd 1520 ft.

Tuscola County—Failure: E. E. Brehm's Skorina 1, nw se sw 35-11n-8e, Traverse 2030 ft, so 2109 ft, abnd 2121 ft.

MISSISSIPPI WILDCAT

Warren County — Failure: William Helis' Anderson-Tully Lbr. Co. 1, nec 40-14n-3e, Wilcox 3517 ft, Eutaw 7966 ft, Tuscaloosa 8490 ft, Comanchean 9409 ft, abnd 9510 ft.

NEW MEXICO WILDCAT

Lea County—Failure: Van S. Welch et al's State 1, c se ne 31-20s-33e, elev 3611 ft, salt 1284-2990 ft, sul water 3687-95 ft, abnd 3697 ft.

OKLAHOMA WILDCATS

Cimarron County — Oil Discovery: Pure's Johnson 1, sw sw se 12-5n-7ecm, pump 552 bbls, Cherokee sd 4855-80 ft, td 5010 ft.

Garfield County — Failure: Sun et al's Christie 1, ne nw 28-24n-7w, abnd 6938 ft.

Johnston County—Failure: Mid-Continent's Bates 1, sw sw sw 28-4s-6e, abnd 2820 ft.

Lincoln County — Failure: Portable Drlg. Co.'s Barnes 1, se se nw 11-16n-2e, abnd 5057 ft.

Osage County—Failure: Norbla Drlg. et al's Osage 1, se ne nw 6-23n-6e, Miss 3114 ft, abnd 3121 ft.

WEST TEXAS WILDCATS

Andrews County—Failure: DeKalb Agricultural Assn.'s Jones-Humble 1, c nw nw PSL 15, blk A-40, elev 3349 ft, Yates 2805 ft, San Andres 4250 ft, Glorietta 5470 ft, Clear Fork 5790 ft, Tubb 6450 ft, abnd 7353 ft.

Crane County — Failure: Sinclair Prairie's Cowden 1, 698 ewl 670 nsl w½ ne sect 35, blk X, CCSDRG&NG sur, elev 2514 ft, Yates 1650 ft, Grayburg 2320 ft, San Andres 2680 ft, abnd 4519 ft.

Dickens County—Failure: Humble's Matador L&C Co. 3-B, c se se sect 1, Blanco CSL, elev 2688 ft, abnd 8230 ft.

Reagan County — Failure: Skelly's T. P. Land Trust-Reagan 1, sw sw sw T&P Ry. 45, blk 36, T-5-S, elev 2686 ft, anhy 1290 ft, salt 1382 ft, Yates 2085 ft, abnd 3366 ft.

Sterling County—Failure: Ray A. Albaugh et al's Reed 1, ne ne sw W&NW Ry. 207, blk 29, elev 2705 ft, anhy 1300 ft, Yates 1485 ft, San Andres 2210 ft, Clear Fork 3216 ft, abnd 5926 ft.

Tom Green County—Failure: Harley Sadler et al's Mims 1-34, 2310 nsl 1650 ewl H&TC Ry. 34, blk 5, elev 2480 ft, abnd 925 ft.

WEST TEXAS OUTPOST

Garza County—Post Failure: J. T. O'Neal et al's Stoker 1-B, 2415 nsl 2310 ewl GH&H Ry. 50, blk 5, elev 2439 ft, lime 2210 ft, abnd 3050 ft.

WEST TEXAS NEW PAY TEST

Crane County — McCamey Deep Failure: Gulf's Atlantic-Cordova 1-E, c e¼ of e¼ H&TC Ry. 7, blk 35, offset 2100-ft pumpers on w side fld, elev 2468 ft, base Permian 5370 ft, Ellenburger 6740 ft, abnd 6929 ft.

WEST CENTRAL TEXAS WILDCATS

Coleman County—Failure: Onyx Ref. Co.'s Hall 1, 2310 wl 330 n of nec of L. McNeil sur 284, but in Leander H. McNeil sur 230, elev 1673 ft, abnd 3050 ft.

Jones County—Failure: Stanley A. Thompson's Whaley 1, nw sw sw sect 10, Orphan Asylum Lands, elev 1679 ft, abnd 2565 ft.

Lampasas County—Failure: Dave Elder et al's Baxter 1-A, 3950 ewl 1050 snl of 205-ac tr, S. Purdon sur 601, Ellenburger 1034 ft, abnd 1278 ft.

Taylor County—Failure: Crown Central Pet. Corp.'s Douglas 1, 1700 nsl 330 ewl Lbr 14, Lge 147, Grimes CSL sur, elev 1879 ft, abnd 3110 ft.

SOUTH CENTRAL TEXAS WILDCAT

Lee County—Failure: Seaboard of Dela's Paul Hendrick 1, 2500 fr nwl 3500 fr nel Frans Potthast sur, 660 fr sel 566-ac lse, sso&g, abnd 9617 ft.

SOUTHWEST TEXAS WILDCAT

Starr County — Failure: Zimmerman & Brock's G. A. Guerra 1, 1210 fr nwl 1155 fr nel 174.8-ac tr, sh 60, 27,350 fr nel 975 fr sel porc 84, abnd 2029 ft.

LOWER TEXAS COAST WILDCATS

Goliad County — Gas Discovery: Ginther, Warren & Ginther's Carrie G. Wood et al 4, 660 fr ne, se&swl blk 12, Pedro Villa sur, 3749.9-ac lse, 4400 ne Well 1, dual comp: perf Vicksburg 5038-46 ft 24 shots, flow 14 mln gas open, 5.6 mln on ⅝-in, sitp 2045 lbs; perf Frio 4656-80 ft 48 shots, flow 54 mln gas, 6.5 on 7/16-in, sicp 1955 lbs, td 5278 ft.

Hidalgo County—Failure: La Gloria Corp.'s N. Weslaco Gas Unit 1, 467 fr sl 400 fr wl Farm tr 98, ne nw sect 145, 11,140-ac tr, so 8975-9005, 8983-9003 ft, abnd 9880 ft.

Jackson County—Failures: Monday Oil Co.'s Mary Hillman 1, 467 fr n&el Mary Hillman 400-ac tr in Jos. Rector sur, abnd 7002 ft.

Crown Central Pet. Corp.'s Lucille Hensley Seale 1, 660 fr el 1320 fr sl 718.5-ac lse, Josiah H. Bell sur, abnd 8507 ft.

Kleberg County — Failure: Humble's King Rch.-Monte Negra 2, start sec Chicago Corp.'s G. P. Wardner 1 go nwly on sl Wardner tr and nl Gertrudis Gr, 11,800 th 22,440 at ra swly to lcn, abnd 7557 ft.

Nueces County — Gas Discovery: Atlantic's Jas. H. Ewing 1, 660 fr nl 219-ac lse in s½ sect 46 M. Lopez de Herrera Gr, gas-cond 7033-37 ft, perf 62 shots 8254-68 ft, flow 19 mln gas, some dist 50-gr, gor 68,000/1, sip 4190 lbs, td 8284 ft.

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LOWER TEXAS COAST NEW PAY TEST

Goliad County — Sarco Creek Discovery: Ginther, Warren & Ginther's Carrie G. Wood et al 3, 1980 se of sel Rowan & Nichols lse 1980 sw of swl Union Prod. Co. lse, on 1487-ac lse Geo. Villa sur, dual comp: perf 48 shots 4148-58 ft, flow 5,570,000 gas, 3/16-in; perf 48 shots 5032-42 ft, flow 1,555,000 gas, 3/16-in, est 70 bbls cond td 5165 ft.

UPPER TEXAS COAST WILDCATS

Chambers County — Failure: Standard of Tex.'s State-Galveston Bay 1, 1980 fr sel 660 fr swl 640-ac lse, sect 103 State submerged lds, abnd.

Harris County—Failure: Paul F. Rutledge-Harris T. Clark's Jos. F. Meyer 1, 660 fr sl 1980 fr el H. Aiken sur, Het 4790 ft, Disc 4410 ft, abnd 7503 ft.

Matagorda County—Failures: Amerada-Sun's W. T. Morrison et al 1, 530 fr wl 660 fr s&el 40-ac tr, jkd and abnd 12,221 ft, pb 7201 ft.

Skelly's J. G. Long 1, 660 n of sl 637 ely at ra fr wl 217.25-ac lse, I&GN sur 2, blk 5, abnd 12,507 ft.

Newton County—Failure: Fred M. Manning-Yegua Corp.'s H. B. Funchess, Jr. 1, 3279.9 fr wl 660 fr nl 804-ac lse, swc county, ne nw Armond Davis sur 3, abnd 7556 ft.

Trinity County—Failure: American Liberty Oil Co.'s Houston County Timber Co. 1, 40-ac tr, Alex. Henry sur, s gas in Edwards li 8080-8343 ft, abnd 8343 ft.

Wharton County—Failure: J. B. Ferguson-J. F. Hutchins' Leo Brod 1, 93-ac tr, I&GN sur, abnd 5697 ft.

EAST TEXAS BORDER COUNTIES WILDCAT

Marion County — Gas Discovery: Rogers Lacy's Scott 1, Alex. Johnson sur, perf 48 shots 5906-14 ft, perf 92 shots 5922-38 ft, 2500 gals acid, flow 1,640,000 gas open fr Hill, rock press 1515 lbs, td 7530 ft, pb 5950 ft.

NORTH TEXAS WILDCATS

Archer County — Oil Discovery: Fred M. Manning's Wallace Ford 1-A 1420 snl 1100 ewl H&TC Ry. 16, blk 1, elev 1003 ft, flow and pump 144 bbls 42.4-gr oil, Strawn sd 4122-63 ft, td.

Archer County—Failures: S. F. Hutcheson et al's Hutcheson 1, 150 out nwc blk 142, J. W. Harris sbdn, abnd 2275 ft.

Bridwell Oil Co.'s Ferguson 2, 1050 out sec blk 9, P. McKim sur, abnd 1850 ft.

Jack County—Failure: J. M. Hickey et al's King 2, 150 snl 240 wel of s½ sect 3307, TE&L Co. sur, abnd 321 ft.

Montague County—Failure: Fred M. Manning-S. D. Johnson's Sewell 1, 330 out sec w½ blk 184, J. P. Owensby sur, elev 969 ft, Bend 5912 ft, Viola 6320 ft, abnd 6360 ft.

Young County—Oil Discovery: L. T. Burns et al's Dunagan 1, 330 out nec sect 170, TE&L Co. sur, elev 1233 ft, Bend 4341 ft, Miss 5022 ft, flow 2000 bbls 41-gr, gor 750/1, via ½-in natural fr Miss perf 5048-64 ft, td 5240 ft.

NORTH TEXAS NEW PAY TESTS

Wilbarger County—National Fld Bend Discovery: Nat. Assoc. Pet. Co.'s Sam Kelly 4-A, nw ne nw H&TC Ry. 30, blk 13, 4th oil zone for fld, elev 1210 ft, Canyon 3168 ft, Bend 4452 ft, Ellenburger 4915 ft, pump 160 bbls 40-gr oil, 8 bbls wtr, 1000 gals acid Bend perf 4455-78 ft, td 4925 ft.

Young County — Unnamed Pool Discovery: Hanlon & Buchanan's Ben Rankin 1, 330 s 450 e of sec of E. L. Douglas sur, but in sect 3, J. Poitevent sur, ½ mi n by e of 4500-ft pumper, elev 1227 ft, Bend 3950 ft, flow 81 bbls 41-gr, gor 1700/1, 1000 gals acid in Bend 4002-09 ft, td 4014 ft.

WYOMING WILDCAT

Platte County—Failure: Continental's Reno 1, sw se sw 1-30n-70w, Indian Creek structure, abnd 2288 ft.

Stanolind Buys Acreage

Another deep test was assured for Grady County, Oklahoma, following an announcement that Stanolind Oil and Gas Company had purchased a block of 2000 acres of leases from Fred Brinkman of Tulsa for approximately $60,000 plus a 1/16 overriding royalty. The leases are southwest of Bradley extending through SECs 3, 4, 9 and 10-4n-5w, and are on a large geophysical prospect. Stanolind agreed to start a deep test by the end of the year.

Bell Company Honored

The U. S. Navy has awarded a "certificate of achievement" to the Bell Oil and Gas Company, Tulsa, "in recognition of exceptional accomplishment in behalf of the United States Navy and of meritorious contribution to the national war effort."

WILDCAT STARTS

ARKANSAS

Dallas County: W. S. Poole et al's Southern Co.-Sturgis Bros. 1, sw se ne 26-9s-16w, lcn.

CALIFORNIA

Kern County: Cinco Development Co.'s Hix 1, 22-31s-37e, Mojave area, lcn.

Tulare County: Transcal Drlg. Co.'s Harris 1, 34-16s-23e, Kingsburg area, prep to spud.

Los Angeles County: H. J. Farrington's No. 1, 22-2s-11w, Whittier Heights area, lcn.

Standard of Calif.'s Gerrard Community 1, 11-3s-11w, La Habra area, lcn.

ILLINOIS

Alexander County: J. E. Rimer's Minton 3, sw sw se 4-15s-3w, lcn.

Clinton County: H. J. Schlafley's Merten 1, sw nw nw 33-2n-1w, dr.

Coles County: Jarvis Bros. et al's Watson 1, nw ne sw 4-12n-9e, dr.

Effingham County: Frank Mitchell et al's Uthell 1, nw sw se 11-8n-6e, dr.

Lawrence County: Earl Brown's Brown 1, ne se nw 14-3n-13w, lcn.

INDIANA

Gibson County: C. E. Skiles' Stein 1, se sw se 35-1s-12w, dr.

L. A. Plumb et al's Coleman Comm. 1, sw sw nw 7-2s-9w, lcn.

Knox County: George & Wrather Drlg. Co.'s Breevort 1, sw sw ne 12-2n-11w, dr.

Posey County: Mabee O&G Co.'s Oeth et al 1, se sw nw 20-7s-12w, lcn.

KANSAS

Morris County: Nadel & Gussman's Novak 1, swc 19-17s-5e, lcn.

Saline County: C. C. Nelson Drlg. Blair 1, nw nw sw 22-16s-3w, lcn.

KENTUCKY

Henderson County: Basin Drlg. Co.'s Washburn 1, 6-P-23, lcn.

W. L. Lichlyter et al's Hughes 1, 10-Q-25, lcn.

Union County: H. H. Weinert's St. Louis Trust Co. 1, 22-O-18, lcn.

NORTH LOUISIANA

Franklin Parish: F. B. King Co.'s Baskin Est. 1, c se nw sw 35-16n-7e, 4000-ft test.

LaSalle Parish: McElreath & Suggett Co.'s Urania Lbr. Co. 3, c sw se 3-10n-3e, bldg rds.

Sabine Parish: Panhandle Ref. Co.'s E. E. Meshell 1, 22-7n-14w, 5000-ft test.

L. & L. Oil Co.'s Pelican State Bk. & Burr 1, 25-10n-13w, 3500-ft test.

MICHIGAN

Van Buren County: C. W. Collin's Hughes 1, sw sw ne 22-4s-13w, dr.

MISSISSIPPI

Wayne County: R. L. Fisher's G.M.&O. Ry. 1, se ne 22-9n-8w, spud.

OKLAHOMA

Lincoln County: Blackwell O&G's Terrel 1, se ne se 21-14n-3e, lcn.

R. L. Alkin et al's Kinder 1, se ne ne 5-15n-5e, lcn.

Hubble et al's Bukaty 1, ne ne ne 19-15n-6e, rur.

Love County: Calif. Co.'s Wright 1, c ne nw 13-5s-1w, lcn.

Pottawatomie County: Ashland O&R Co.'s Gudenian 1, se nw nw 12-10n-4e, rog.

R. U. Porter's King 1, Com., se sw sw 2-11n-6e, rog.

Seminole County: H. H. Wegener's Robertson 1, nw ne sw 31-9n-7e, rog.

WEST TEXAS

Garza County: Great Western Prod.'s Cliff Johnson-Magnolia 1, c ne ne sect 4, A-555, 1¾ mi n by e of PHD pool disc, 3600-ft test.

Lynn Oil Co.'s K. Stoker-Magnolia 1, lse 2, se sw nw GH&H Ry. 32, blk 5, lcn.

Menard County: Phillips' Dan Crowell 2, 330 snl 600 wel P. M. Weichold sur, slim-hole test, minor show gas 2202-47 ft, sd 2350 ft.

Mitchell County: Stanolind's B. F. Dunn 1, c sw ne Lavaca Navigation Co. 64, blk 20, 5700-ft test.

Pecos County: Wm. Y. Penn et al's W. T. Shearer 1, 2310 fr nel 330 fr nwl H&GN Ry. 41, blk 10, 2500-ft cable test.

Terry County: Texas Gulf Prod. Co.'s W. H. Collins-Seaboard 1, 2105 snl 1980 wel PSL 4, blk K, 5500-ft test.

Tom Green County: Harley Sadler et al's Bob Mims 2-80, c ne se H&TC Ry. 80, blk 6, 950-ft test, set sur pipe.

WEST CENTRAL TEXAS

Coleman County: Lancaster Bros. et al's M. R. Norton 1, 1600 out nwc of E. Humphreys sur 96, 2500-ft cable test.

Shackelford County: Jones-Stasney & Roark's T. W. Lee 1, 220 fr nwl 1690 fr swl TE&L sect 826, 800-ft cable test.

LOWER TEXAS COAST

Brooks County: La Gloria Corp.'s C. F. Wagenschein 1, 467 e of wl 1745 n of sl OCSD&RGNG sur 22 and 1650-ac lse, 8500-ft test.

SOUTHWEST TEXAS

Starr County: Zimmerman & Garcia's M. M. Garcia 1, 330 fr e&sl blk 6 330 n of sl 1120 w of el sur 918, on 335-ac lse, ru 5000-ft test.

Webb County: Dulaney Oil Co.'s Bruni 21, 990 e of wl 1517 n of sl blk 73, Brown sbdn, 111.9-ac lse, Albercas Gr, 2000-ft test.

UPPER TEXAS COAST

Waller County: V. A. Brill's Roy Chapman 1, 660 fr n&wl M. M. Coats sur, lcn.

Wharton County: Seaboard Oil Co.'s M. T. Wehrmann 1, 550 fr el 467 fr nl 157.46-ac tr, 1 mi s of El Campo fld, ETRR sur sect 69, 7500-ft test.

NORTH TEXAS

Archer County: Grace & Grace's A. B. Edwards 1, 330 out nec lot 16, L. P. Hunt sbdn of Geo. C. Bruner sur A-8, Ellenburger test, dr 2915 ft.

Foard County: Seaboard O&G Co.-Shamrock O&G Corp.'s J. M. Speck 1, 440 n 440 w of swc of McKinney & Williams sur, but in H&TC Ry. 25, blk 44, 6500-ft Ellenburger test.

King County: Humble's Anna B. Masterson 1, c sw ne Indianola R. R. Co. 19, A-316, 3700-ft test.

Montague County: L. S. Youngblood-R. L. Foree's Joe Benton 2, 3715 nsl 6017 ewl of Abel A. Lewis sur A-420, 6500-ft Ellenburger test.

Throckmorton County: J. W. Carter et al's O. L. Kunkle 1, 2000 fr swl 150 nwl of se½ of TE&L Co. sect 652, 800-ft test, sp.

Wichita County: Nat. Assoc. Pet. Co.'s P. G. Krohn 1, 330 out nwc blk 288, Waggoner Colony Lands, 4000-ft Ellenburger test, dr 150 ft.

F. L. Harvey et al's G. T. West 1, 150 nsl 200 ewl of 80 of n 160 of 320-ac tr, S. P. Ry. A-265, lcn.

Wilbarger County: W. T. Waggoner Est's Fee 1-QQ, 330 wel 660 nsl H&TC Ry. 39, blk 2, 4500-ft Ellenburger test, dr 1520 ft.

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■ FOR SALE: One new, never-been-used oil field type, heavy duty truck tractor auto car and float trailer. Especially adaptable to hauling heavy oil field equipment. For complete information call or write Stephens Petroleum Company, Apco Tower, Oklahoma City, Oklahoma.

■ FOR SALE: UD14 International Diesel 70 hp. Can't be told from new, used only 191 hrs. C. H. Cravens, phone 27108, P. O. Box 905, Corpus Christi, Texas.

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■ WANTED BY MANUFACTURER: Mechanical Engineer or Draftsman familiar with oil field production equipment such as casing-heads, Xmas trees, Etc. When replying give experience and references. Permanent position. Address: Box 96, c/o The Oil Weekly, Houston, Texas.

PETROLEUM ENGINEER

For Eastern Venezuela. Graduate with 3 to 5 years experience. Single status. Write

ATLANTIC REFINING COMPANY
(Rm. 900) Box 7258,
Philadelphia 1, Pennsylvania.

WANTED TO BUY

■ WANTED: Producing properties netting from $8,000.00 a month up. W. K. Mann, Osage Hotel, Arkansas City, Kansas.

■ WANTED: Lease for drilling, Illinois or Indiana. Close in or block with good geology. Address: Advertiser, 537 S. Spring St., Evansville, Indiana.

SITUATION WANTED

■ Geologist with 9 years experience in Arkansas, Louisiana, Mississippi, and East Texas desires employment in Southwest Texas, San Antonio district. Work must be of a bona fide geological nature. Address: Box 94, c/o The Oil Weekly, Houston, Texas.

NOTICES

■ Manufacturers Agent, Gulf Coast area desires one additional account. Address: Box 88, c/o The Oil Weekly, Houston, Texas.

■ Individual, or Company to finance shallow wells from 500 to 1500 feet. Am Realtor, but have spare time occasionally to hunt shallow oil structures, familiar with West Central, Texas. Would consider putting my time against capital to hunt these structures, and my compensation would be offset acreage to each exploratory well drilled. Possibilities great. Write: 109-A South 5th Street; Waco, Texas.

CUBA. JARAHUECA. If Interested in Shallow Production Don't Overlook This Opportunity. Field producing now 600,000 gals. crude monthly. Selling price $0.12 gal. We own 250,000 acres. Will lease lots from 1000 to 10,000 acres $0.40 per acre per year plus 1/32 royalty. Cost of cable tool drilling averages $1.00 ft. Paying horizon from 400 to 1800 ft. CUBAN OIL ENTERPRISES. 574 Aguiar St., Havana, Cuba.

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A clean wire line helps your crew. They can work safer and better on a clean floor, free from drippings. With a Patterson-Ballagh Wire Line Wiper the line is stripped completely of mud and oil. A compact steel housing contains a spiral rubber which is inexpensive and easily replaced. The rubber wipes the line as it comes out of the hole. Spark-proof. Use one on every well. Now made of PBX, Patterson-Ballagh's new synthetic rubber.

See Composite Catalog

Patterson-Ballagh
WIRE LINE WIPERS
Los Angeles 1 Houston 10 New York 6

SQUEAKS from the BULL WHEEL

Modern Mother Goose

Mary had her little man
Insure his life one day.
The little man ain't here no more,
But Mary—she's okay!

Life Is Like That

The farmer was sitting on his front steps eating a sandwich when a hen zoomed by with a rooster in hot pursuit.

Suddenly, the rooster put on the brakes, slid to a halt and began picking up the crumbs from the sandwich.

"Dern," muttered the farmer in disgust, "hope I never get THAT hungry."

Turn About

Four young men, visiting in the Orient before the war, delighted in playing all sorts of pranks on an old servant. With no trace of resentment, The Chinese faithfully fetched their coffee, day after day.

Finally they decided to play no more tricks on such a good fellow, and told him so.

"No more nail shoes to floor?"

"No."

"No more put sand in bed?"

"We promise."

"Okay. No more put dish water in coffee."

Large Field

"Boy, I'm scared! I just got a letter from a man telling me he would shoot me if I didn't stay away from his wife."

"Well, all you have to do is stay away from his wife."

"The heck you say. He didn't sign his name!"

Home Fires Burning

A Chinese proudly displayed to his employer some pictures he had received from China of a pretty young woman and two little boys. They were his wife and two sons, he explained.

"Are you kidding? You have been in this country for 20 years."

"Yes, yes, but me have velly good friend in China."

Her Hook Wasn't Baited

"Have fun on your fishing trip, Mary?"

"It was awful.. I'll never go fishing with that man again."

"Migosh! What did he do?"

"Fished."

Poet's Nook

Abbreviated travel
Is designated trips,
Expansion of the mid-beam
Is generally called Hips.

But under no conditions,
Whatever else she hides
In feminine traditions
Are slips defined as slides.

Encore

Breathes there a man with soul so dead
Who never to himself has said,
"%89x$3 ! ! ! #&(%&$" ! !"
As he stubbed his toe on the foot of the bed?

Time Without End

"What kinda woman did you marry?"

"An angel."

"You're lucky. Mine's still living."

Breathless Existence

"Oxygen is essential to all animal existence," declaimed the scientist. "Life would be impossible without it. Yet it was discovered less than 100 years ago."

"What did they do," demanded a voice from the back row, " before it was discovered?"

Light O' Love

"I'm crazy about your wife, McTavish. If you'll let me have her I'll pay you her weight in gold."

"Let me have a few days first."

"To think it over?"

"No, to fatten her up."

CORE DRILLING SERVICE
to 2000 ft.
New Shot Hole Drills For Sale
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Specializing in MICROMAGNETIC SURVEYS, GEOLOGICAL INTERPRETATIONS and CORRELATIONS of seismic, gravimetric, electric and magnetic surveys.
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What the Oil Industry Wants to Know Is . . . Will Their Wildcats Produce?
To prove the value of our services we will report, in advance of completion, the outcome of several wildcat wells being drilled by Major Oil Companies in various states. Reports will be sent to those interested in our services, with no obligation.
CHEMICAL ANALYSIS SURVEYS
3110 Holmes Street Kansas City, Mo.

C. E. Finney, Jr., assistant vice president of manufacturing for Standard Oil Company of California, has been named a vice president. He will be occupied with industrial relations. Finney joined Standard of California in 1919 and became general manager of the manufacturing department three years ago.

C. E. Finney, Jr.

G. H. Langsdorf has been named manager of technical services for the company and **O. N. Miller** has been chosen assistant to **G. A. Davidson,** vice president in charge of manufacturing.

James C. Barnaby, consulting engineer of Worthington Pump and Machinery Corporation, has been transferred to the general engineering staff at the Harrison Works as assistant director of research and development.

C. H. Wagner, Jr., has been elected vice president of the Parker Appliance Company, Cleveland. He is also secretary of the organization, and has been with the company since 1941.

F. W. Abrams, board chairman of Standard Oil Company (N. J.), has been elected to the board of directors of Ethyl Corporation.

Robert T. Haslam, vice president of Standard Oil Company (N. J.), is on a tour of South America, accompanied by **George M. Parker,** Jersey's foreign marketing coordinator.

Carl J. Westlund, George C. Johnson and **George Pruter,** all of Midland, Texas, have organized as Westlund & Johnson, Inc., to operate as drilling contractors and producers. Their initial project will be a joint test with **J. W. Tripplehorn** in the Deep Rock field.

C. C. Dauchy of San Antonio and associates have formed the Milam Drilling Company with paid-in capital stock of $49,800. Headquarters will be at San Antonio.

Dale W. Moore, H. L. Shockley and **D. D. Braly,** all of Houston and veteran exporters of petroleum products, have incorporated as Moore Oil Terminals, with headquarters in the Commercial building, Houston.

W. Frank Bowser, formerly with the Lion Oil Company in West Texas, has been employed by Sunray Oil Corporation to take charge of a new district land and geological office to be established at Midland, Texas.

A. T. Wisner has resumed his former position as assistant manager of the personnel department for The Carter Oil Company at Tulsa. He returns after two years in the Merchant Marine.

W. E. Leroux, central division petroleum engineer for The Carter Oil Company, has been temporarily assigned to the Standard Oil Company (N. J.) wildcat test on Cape Hatteras, N. C.

D. W. Harris, who several months ago became president of Universal Oil Products in Chicago, was recently on a several days' visit to Shreveport, where he formerly was president of the Arkansas-Louisiana Gas Company and affiliates.

F. L. Carmichael has resigned as tri-state manager for the Delta Drilling Company at Evansville, Ind., and has returned to Tyler, Tex.

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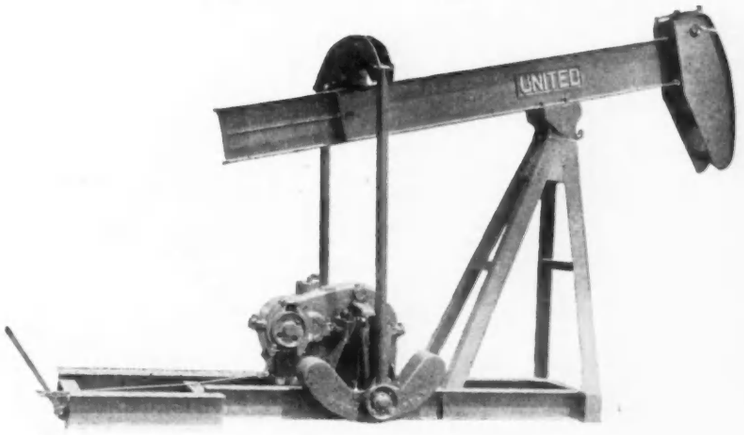

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Yet Rope, which has played such an important role in the *course of human events* in the past, will be found even more vital to the progress of man in the future—and, more than ever, *quality* in rope will pay. The next time you call for rope, call for *New Bedford*—the rope that's been famous for quality for over a hundred years.

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MEN IN THE INDUSTRY NEWS

Isaac Doughten, who resigned from government service December 15, has returned to The Atlantic Refining Company as an executive in the foreign sales department. Doughten served as petroleum attache in Paris from March until November. Prior to that, he held post in the petroleum division of the Foreign Economic Administration.

Isaac Doughten

Jerry Atkins, formerly district engineer at Great Bend, Kan., for The Carter Oil Company, has resigned to go into business at Ardmore, Okla.

Horace E. Rodgers has completed 30 years of service in the lease records division of The Carter Oil Company, Tulsa. He joined the company in 1915 as a typist and has held almost every position in the lease record division.

Lt. Col. C. W. Brown of Houston, veteran of 53 months active duty as an artillery officer, is returning to petroleum engineering. After receiving his B. S. degree from Texas A. & M. College in June, 1941, he attended artillery school, joined the Third Armored Division in England, and went into Normandy. He saw combat across France, Belgium, and figured in the fighting for the Siegfried Line at Aachen.

Frank J. Bell has resigned from the engineering division of The Carter Oil Company at Carmi, Ill., and has opened offices at Carmi.

Charles F. Dougherty has been named special sales representative for Robinson Packer Company. He has been engaged in sales and manufacturing of oil well equipment for 25 years and will make headquarters in Tulsa.

Warren Leverett, general manager of the National Zinc Company, Inc., at Bartlesville, Okla., spoke before the Oklahoma Chemical Engineering Society, Bartlesville, on the manufacture of sulphuric acid and zinc production.

Robert F. Walters, research geologist for Gulf Oil Corporation at Tulsa, has achieved his Ph.D. in geology from Johns Hopkins University and returned to Tulsa to resume his duties.

J. M. Taylor, until recently in charge of American Iron & Machine Works Company, Dallas office, has been made Gulf Coast district manager and will headquarter at 2205 Qlitman Street, Houston. Taylor has been with American for ten years and served as district manager in Kansas before moving to the Dallas territory.

James H. Howard, recently discharged from the Navy, has organized the J. H. Howard & Company, with offices in the Scanlan Building, Houston, offering services in industrial, product and general engineering, but will specialize to a large extent on the development and engineering of oil field equipment. Howard formerly worked on the design of the sea water intakes and power plants for two Dow Chemical Company plants as a mechanical engineer with The Austin Company. From 1929 to 1940, he was chief engineer for McEvoy Company, and in the latter part of 1940, he became sales engineer for the Oilfield Equipment Company with offices in New York.

James H. Howard

Norman J. McGaw has been appointed general vice president of Shell Oil Company for east of the Rocky Mountain territory. McGaw joined Shell in 1925 and was named vice president in charge of transportation and supplies in 1939. Activities of the latter department will now be directed by **D. B. Hodges,** general manager of the department.

Dee A. Replogle and **Francis Fleming** have organized the Fleming Drilling Company and are operating in the Illinois Basin area.

Henry Schweer, consulting petroleum engineer, has moved from Oklahoma City to Wichita, Kan., where he has organized the firm of Schweer and Hardison, with offices in the Waggoner building.

Engene Fisher was elected president of the new Permian Basin chapter of the American Institute of Mining and Metallurgical Engineers. He is a petroleum engineer for Stanolind Oil & Gas Company, Midland, and succeeds **Joe W. Graybeal.** This engineering group formerly was known as the Permian Basin Engineer's Association. **Lee Flood,** chairman of the Goldsmith Field Engineering Committee, and **S. V. McCollum,** Continental Oil Company, were chosen vice president and secretary-treasurer, respectively.

Collin Reith, has been appointed vice president in charge of production for Standard Oil Company of Texas, to succeed **E. S. White,** who plans to return to his home in California.

Robert L. Featherly has returned to Dow Chemical Company as a member of the Magnesium sales staff on cathodic protection. He has been in the Navy. His headquarters will be at Midland, Mich.

MEN IN THE INDUSTRY NEWS

Arthur L. Morrison, recently discharged veteran, has been appointed sales engineer of the Gaso Pump & Burner Manufacturing Company, with headquarters in Dallas. Morrison joined Gaso in 1940 after graduating from Oklahoma University. Entering the service in March, 1943, he was a flying instructor until March, 1945, when he began training as a fighter pilot. He was discharged in September, 1945, and rejoined the Gaso company a month later.

Arthur L. Morrison

C. F. Johnson has joined Watson-Stillman Company, Roselle, New Jersey, where he is in charge of engineering in the forged steel fitting and the bronze and forged steel valve divisions. He will also function as a Watson-Stillman representative in contacting the trade. After graduating from Rice Institute in Houston, Johnson became associated with The Reed Roller Bit Company. He was later with Security Engineering Company of Whittier, Calif.

Robert G. Allen has been named general sales manager for The Baldwin Locomotive Works.

Harvey A. Craig has been appointed Pacific Coast manager for Republic Steel Corporation. He will supervise the territory served by all three coast sales offices, and will retain his position as manager of the Los Angeles office. No change is being made in the personnel of the other offices, one at San Francisco, and one at Seattle.

Clair A. Nabors, who served four years as a lieutenant commander in the Navy, has rejoined Reed Roller Bit company as its Tulsa representative.

Ralph E. Kramer has been named vice president in charge of sales of Hammond Iron Works, Warren, Pa. Kramer formerly was mill foreman for the Inca Mining and Development Company in Tirapate, Peru, manager of the Far East for the Sullivan Machinery Company, with headquarters in Tokyo, President of H. Channon Company, and prior to joining Hammond Iron Works was Sales Manager of the N. A. Woodworth Co. of Detroit.

E. R. Nary has been appointed assistant to **Walter Evans,** Westinghouse vice president, with responsibility for operation of the Industrial Electronics and X-Ray Divisions at Baltimore. He has been with the company more than 30 years, and takes over his new post after three years as manager of manufacturing for Baltimore divisions. As assistant to the vice president, he will continue to maintain headquarters in Baltimore.

Wanted
Petroleum Engineer

Sperry-Sun Well Surveying Company has immediate opening for a petroleum engineer experienced in high-pressure gas or oil production to take charge of a new service determining corrosion of tubing. Apply in person or write, giving qualifications and past experience.

Address: Sperry-Sun Well Surveying Company, 3118 Blodgett Ave., (P. O. Box 8008), Houston 4, Texas.

JOHN F. WEINZIERL
Consulting Geologist and Geophysicist
LAURATAL
Riverside, Walker County, Texas

Deaths

Eugene R. Black, 63, Oklahoma independent oil producer, died February 4, in Tulsa after a lengthy illness. He had been engaged in the oil industry in Oklahoma since 1907.

H. R. Caldwell, 49, assistant to the production superintendent of Helmerich & Payne, Inc., Tulsa, died February 3. He formerly was vice president of Leader Oil Company.

Glenn C. Kiley, vice president of the Oklahoma Gas and Electric Company, died January 31 in Oklahoma City following a heart attack.

Burton Orville Hindman, 74, pioneer oil man, died in Elyria, O., January 24. He was associated for many years with the Indian Territory Illuminating Oil Company.

Gabriel C. Biggs, 58, accountant for The Texas Company and an employe for 31 years, died February 2 at Fort Worth following a heart attack.

Easy Clean
TRADE MARK

Attention —

Drilling Contractors

Oil Producers

Transporters

Avoid costly shutdowns and repairs to engines due to overheating often caused by dirty or partially plugged cooling systems, by simply adding **EASY CLEAN** SOLVENTS to your present cooling water.

Guaranteed NON-INJURIOUS to rubber or metals, and to REMOVE accumulated scale and rust, **EASY CLEAN** will restore efficiency of your engine cooling system — regardless of size.

EASY CLEAN water treating service is backed by nearly 28 years of experience— Pumping Engines, Drilling Engines, Boilers, Cooling Towers, Spray Ponds, etc

Phone, wire or write for further information. Branch Office: 318 Thompson Bldg., Tulsa, Oklahoma. Phone 3-4564.

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PACKINGS

DONKEY WATERPROOF HYDRAULIC PACKING

Prepared especially for heavy hydraulic duty such as rams, accumulators, hydraulic pumps handling cold water, brine, cold oil, etc. Boxed or on reels from 25 to 100 lbs. Sizes ¼" and up.

If there is a way to get it done **QUAKER** *will do it*

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Safety & Thrift
COMBINE IN THIS
FOCAL-RAY
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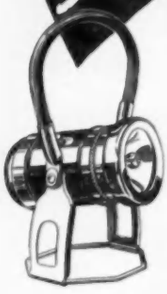

• OIL-MEN, everywhere, approve this *spark-proof* FOCAL-RAY Lantern, with its wide adjusting range—from a beam to a floodlight at one turn of the lens. Flexible Directional Beam. Wireless Sliding Switch. Easy Grip Handle. Runs on 6-Volt Lantern Battery.

Carried by your Supply Distributor, or write for immediate delivery.

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Specializing in shallow drilling and deep work-over work.

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CORPUS CHRISTI, TEXAS

MANUFACTURERS' NOTES

Father and Six Sons Operate W. C. Dillon Company

W. C. Dillon & Company, Chicago, is directed by a father and six sons. The company makes precision instruments for weighing, measuring and testing, and is also a research and development center for new ideas and patents on precision instruments. In the picture, left to right: Standing, R. E. Dillon, R. R. Dillon, G. P. Dillon and W. C. Dillon, Jr. Seated: W. L. Dillon, W. C. Dillon, Sr., and E. I. Dillon.

Labor Relations Department Is Organized by Caterpillar

A new labor relations department has been established by Caterpillar Tractor Company, to carry on the functions of the labor relations staff, formerly a part of the Industrial Relations Department.

Ralph M. Monk

The programs of the labor relations and industrial relations departments will be administered by Ralph M. Monk, who assumes the title of director of industrial and labor relations. Monk joined Caterpillar in April, 1938, as director of industrial relations, a position he has held since.

George W. Torrence has been appointed manager of the new labor relations department and Warren Kinsey has been named industrial relations manager.

Torrence, a member of the industrial relations department since September, 1937, will continue to handle matters pertaining to union relations, arbitration, collective bargaining, governmental labor agency contacts and labor relations investigation, information and counselling.

Kinsey's supervision includes personnel, safety and sanitation, medical, insurance, job analysis, restaurant, employe publications, retirement plan and the employe recreation program. A member of the Caterpillar organization since 1933, Kinsey recently rejoined the industrial relations department following several years as director of industrial relations at Caterpillar Military Engine Company in Decatur.

Oscar D. Nelson Named Head Of Butler Manufacturing Firm

Butler Manufacturing Company, Kansas City, Mo., announces the following changes in personnel: Oscar D. Nelson has been named president and general manager, succeeding E. E. Norquist, who was elected chairman of the board of directors. Norquist was one of the founders of the company in 1901, and Nelson began as an office boy in 1910.

Norquist was first plant manager, then vice president, and president after 1927. Nelson was made assitsant treasurer in 1917 and treasurer in 1923.

F. A. Rufi, associated with the company since 1909 and secretary since 1927, has been elected treasurer.

BAIRD
SINGLE SEAL SEAT
SEATS and BALLS
DOUBLE SEAL SEAT
• Available in a grade to meet the individual well pumping problem.
• Furnish longer continuous runs.
• Fewer pulls for replacement.
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Sold thru Supply Stores
BAIRD MANUFACTURING COMPANY
OIL WELL PRODUCTION EQUIPMENT
TULSA

MAGNETOMETERS: The finest instruments for oil surveys. High sensitivity, fully temperature compensated, clear scale, and you can take more readings per day. Write for fully illustrated catalogue.

Wolfson Instruments Corporation of America
70-86 West Chippewa Street
Buffalo 2, New York

1—Wire Line Valve

Oilfield Machine and Supply Company has perfected a pressure seal wire line valve designed for use in any operation where tools or instruments are run in wells on wire lines under pressure. The

valve is applicable for use in running all wire line units for bottom hole pressure bombs, chokes, safety valves, paraffin scrapers or bottom hole samplers, and in fishing for those tools.

The valve is tested to 6000 pounds and has a full 2½-inch opening through the valve. It weighs approximately 100 pounds with over-all dimensions of 14 x 7 x 10 inches.

In operation the valve is installed below the lubricator. A built-in equalizing valve provides simple, convenient operation and eliminates outside lines. Rubber used in the rams is of the highest grade, oil resistant type.

The pressure seal feature of the valve is said to be unique in that it requires no adjustment. As more pressure is applied against the rams when the valve is closed, the rams seat even tighter. Rams are opened or closed by a 90-degree turn of the ram arm. On jobs where multiple runs of tools or instruments are made, the quick-opening feature saves considerable time. Rather than close the master gate of the Christmas Tree between runs, the well may be closed in by a quick turn of the ram arm.

In the event of packing failure in the stuffing box on top of the lubricator, the valve may be closed around the wire line, shutting in the well and allowing the operator to repack the stuffing box.

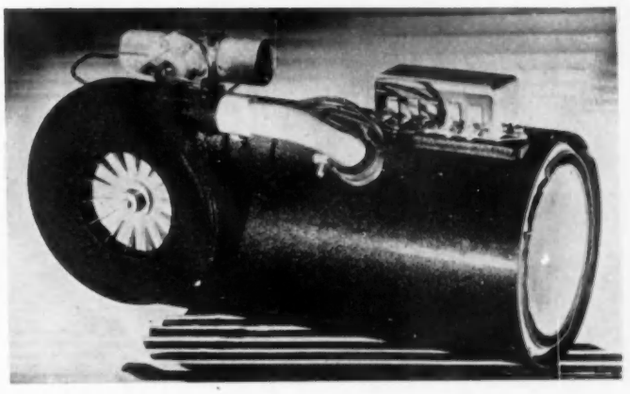
In fishing operations it is claimed that the valve will often save losing fish, since the operator may shut the well in without severing the wire line. When the fish is caught and pulled to the top of the hole, the fishing tool will be in the lubricator while the caught fish is still below the master gate. The fish may be removed by closing the valve, breaking off the stuffing box to remove the fishing tool, and then replacing the stuffing box and coming out of the hole with the fish.

The valve is also used for subsurface pressure control. It also meets the need for an easy-to-use, light, safe blowout preventer on macaroni tubing string handled under pressure. By modification of the rams, upset tubing up to one-inch may be stripped through the valve.

(Check item 1 on coupon for more information.)

2—Heater

Stewart-Warner Corporation announces the "South Wind Deluxe Heater" for passenger cars, trucks or busses. Among the features claimed for the unit are rapid heating, introduction of a large volume of warmed, fresh air; draftless distribution of heat through ducts to concealed outlets in the passenger or gacro space, and a unique modulating flow temperature control device which "anticipates" temperature changes and adjusts the heater operation to maintain pre-selected temperature in the vehicle.



The heater is described as a gasoline-burner with maximum heat output of 20,000 Btu's per hour. Mounted under the car hood and equipped with a blower which draws in cold, fresh air from a point just behind the radiator grill, the heater warms and delivers to the ducting system sufficient air to provide a complete air change within the passenger space of the automobile every 90 seconds or less.

The heater has no effect on engine performance. The fuel supply is taken from the gasoline line between the fuel pump and the carburetor, in normal installation. There is no connection to the manifold or to the engine cooling system.

A "dual duty" thermostat which sustains the desired temperature in the car and eliminates heat surges by providing a steady flow of a balanced amount of heat in the duct system is provided. Because the fan of the fresh air intake can be turned on without the heater itself operating an additional ventilating function is provided.

In a typical passenger car installation, the warmed air is ducted from the heater to two outlets at the windshield and to outlets under each side of the front seat, where the air emerges both to the front and to the rear. In addition a "foot warmer" directs air from still another outlet across the feet of the front seat passengers.

(Check item 2 on coupon for more information.)

3—Tank Coatings

Carbozite Companies announce four new tank coatings designed to give maximum durability under varied exposures. The coatings are Carbo Black, Carbo Gray, Carbo White, and Carbo Aluminum. All four coatings are ground in quick-drying synthetic vehicles which offer maximum resistance to oils,

Use This Convenient COUPON for Additional Information

Check below the numbers identifying items on which you want additional information. Mail coupon to The Oil Weekly and your request will be forwarded to the manufacturer.

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P. O. Box 2608, Houston 1, Texas, U.S.A.

Please have manufacturers send me, without obligation, more information on items shown in February 11 issue of The OIL WEEKLY as checked below:

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13	14	15	16	17	18	19	20	21	22	23	24

In addition to information checked above, I would like more data on products or services advertised elsewhere in this issue by_____ Company

Name_____ Title_____

Company_____

Address or P. O. Box_____

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(To avoid delay PRINT or TYPE clearly name, company and mailing address)

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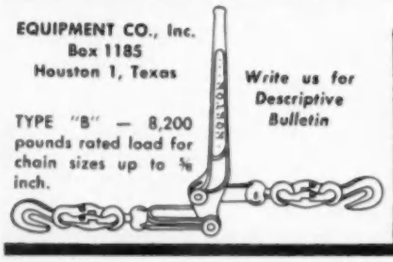
TYPE "B" — 8,200 pounds rated load for chain sizes up to ⅝ inch.



NEW EQUIPMENT . . . LITERATURE

greases, tars, caustics, acids, rain, sleet, snow, sunlight, and other destructive agents encountered in tank service.

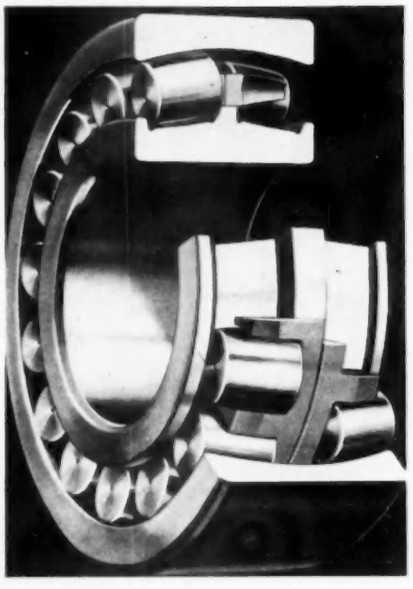
Different colored coatings have various uses and therefore, various specific requirements. The coatings are of the non-bleeding type so that stencils applied over them remain clear and distinct for long periods of time. The coatings are supplied with sufficiently high viscosity to allow painters as much leeway as desired in thinning, to produce satisfactory brush or spray coatings to suit particular needs.

(Check item 3 on coupon for more information.)

4—Roller Bearing

The Bahtam Bearings Division of the Torrington Company, announces production of a self-aligning spherical roller bearing.

This spherical roller bearing is specif-

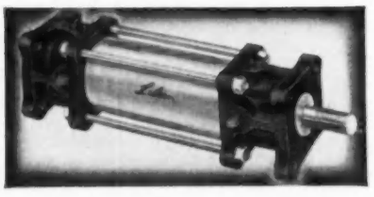


ically adaptable to heavy-duty performance in a wide range of equipment typical in oil production. In addition to self-aligning features, the bearing is said to offer two-directional thrust, high radial capacity, high thrust capacity, and unit construction for easy installation.

(Check item 4 on coupon for more information.)

5—Standardized Cylinder

Engineering Products Company is offering a standardized cylinder designed for operation by air, oil or water, and which it is claimed lends itself to almost universal mounting applications.



The cylinder is manufactured in quantities, and is available off the shelf in an assortment of diameters and stroke lengths that meet practically all requirement.

(Check item 5 on coupon for more information.)

6—Power Plant

Stewart & Stevenson Services have developed a diesel electric power plant, built in various sizes and providing sufficient power to drill to 18,000 feet.

The combination employs a General Motors 2-cycle diesel engine connected directly to a voltage d-c generator. Each unit is specifically engineered for the job required of it in the field. By using twin and quad models, the load factor can be equally as good when drilling at shallow depths as well as at maximum depth, according to the company.

The amount of water required for use with the unit, outside of that used in normal drilling operations, is usually less than ½ gallon per week per engine, a great advantage when drilling in locations where drilling water is difficult to obtain.

The d-c generators are self-contained and are mounted on heavy duty oil field type skid bases, are portable and easily moved. The heaviest power unit on the 300 KW set will weigh less than 25,000 pounds, and the smaller 150 KW unit including engine and generator, completely mounted weighs less than 15,000 pounds.

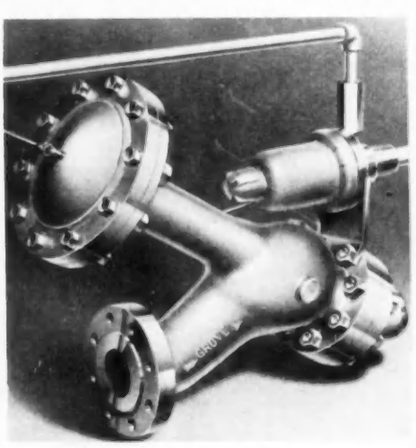
Since the power is transmitted between the generators by cables to the electric motors, the problem of setting up on a new location is simple, and the units are easily installed.

The company also offers parts and service sufficient to meet any emergency. The repair department is said to be capable of completely remanufacturing and Series 71 General Motors Diesel engine in two days.

(Check item 6 on coupon for more information.)

7—Valve

Grove Regulator Company announces a back pressure, relief and stack valve, designed for maximum flow and freedom from freezing, and said to represent a marked advancement in valve de-



sign, construction and operating performance. Its free-flow characteristic is attributed to an unusually straight flow, resulting from a 30-degree S-pattern valve body design, which eliminates turbulence.

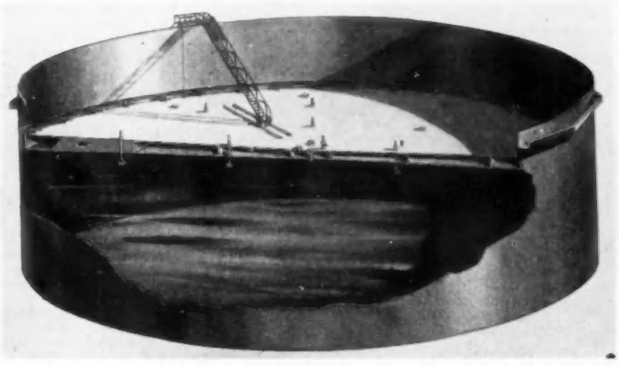
Actual capacity of the valve is said to be equivalent to conventional double seated globe valves, yet single seated valve and pilot construction is employed.

(Check item 7 on coupon for more information.)

NEW EQUIPMENT . . . LITERATURE

8—Floating Roof

Chicago Bridge & Iron Company announces an improved Horton floating roof of double-deck construction for use on flat-bottom tanks storing volatile liquids. The double-deck, it is said, insulates the liquid and eliminates practically all boiling, thus extending the range of products previously stored in floating roof tanks.



The bottom of the deck is sloped up toward the center and the roof is designed to vent all air from beneath the deck. The excluding of air-vapor mixture under the roof eliminates losses from breathing. The top of the deck is smooth which tends to reduce maintenance problems.

The Horton seal closes the space between the tank shell and the deck. A sealing ring forms a ling sliding contact with the tank shell and is joined to the deck by a continuous gas-tight curtain. The roof is equipped with adjustable supports, gauge hatch, bleeder vent, manways and a screened open pipe drain at the center of the roof. When a water-bottom is objectionable, a pipe drain or flexible hose drain, to carry the water to the outside of the tank can be supplied.

(Check item 8 on coupon for more information.)

9—Bullet

Schlumberger Well Surveying Corporation has announced a gun perforating bullet which, it is claimed, leaves no burr on the inner wall of the casing.

The bullet consists of a standard Schlumberger bullet fitted with a metal disc. When the assembly is fired the flat face of the disc contacts the wall of the casing to prevent the formation of a burr.

(Check item 9 on coupon for more information.)

Literature

10—Cement

Baldwin-Hill Company has released a four-page folder on B-H No. 1 Insulating Cement. This folder provides factual information, tables and charts on the efficiency, coverage and ease of application of the product, which is described as the all-purpose thermal insulation.

(Check item 10 on coupon for more information.)

11—Cycling Plant

Clark Brothers Company has issued Form 9-45-8500, which is a reprint on the Grapeland Cycling Plant, at Grapeland, Texas. The plant at Grapeland is out of the ordinary in that it shows what can be done with cycling plants by smaller independent producers. There the scale of distillate recovery operations is reduced considerably under those of the larger plants.

(Check item 11 on coupon for more information.)

Use the Coupon

For free copies of Manufacturers' Literature or more information on products described on these pages, use the convenient mailing coupon on page 293.

12—Safety Relief Valves

Farris Engineering Company, has published Catalog 45 featuring safety and relief valves to match the improved designs of the latest power and process equipment. An easy-to-use pictorial index shows line drawings of all the basic valve types. Directly opposite the pictorial index is a detailed index showing how the valve can be used and where to find its specifications in the catalog.

(Check item 12 on coupon for more information.)

Tax Refunds

Mid-Continent Petroleum Corporation of Tulsa headed a list of Oklahoma corporations and individuals receiving tax refunds from the government for the 1945 fiscal year, receiving a check for $320,630. Second largest tax refund went to the First National Bank and Trust Company, Oklahoma City, which received $197,188, while Standish Pipe Line Company, Bartlesville, received a refund of $188,538. The Williams Brothers Corporation of Tulsa received a refund of $51,169.

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